Technical description

Progressive distributors SXE-2 are built in a variable disk construction. Therefore the distributor can optionally arranged, depending on the number of lubrication points and their lubricant need.

The SXE-2 distributor consists of distributor disks. These disks consist of a basic element and a metering, respectively a dummy element. Basic elements are divided into initial, middle- and end elements.

The variable system enables changes of the metering volume of the individual outlets as well as the number of outlets.

The different metering volume per stroke is effected by different piston diameters.

For reducing the number of distributor outlets of an existing distributor SXE-2, a dummy element is available or a basic element with metering element can be removed. The distributor can be enlarged with an additional basic element with metering element.

A progressive distributor needs at least three metering elements (piston elements).

Technical data

Operating pressure - inlet :	max. 300 bar
Temperature range:	-35 °C to 80 °C
Lubricant:	oil - fluid grease- grease up to NLGI-cl. 2
No. of revolutions:	max. 180 rev/min
Material:	steel, galvanized stainless model possible on enquiry

Number of elements:

Min.	3 metering elements:	SXE-2 3/6
Max.	10 metering elements:	SXE-2 10/20

Progressive distributor SXE-2 with four distributor disks and eight outlets:

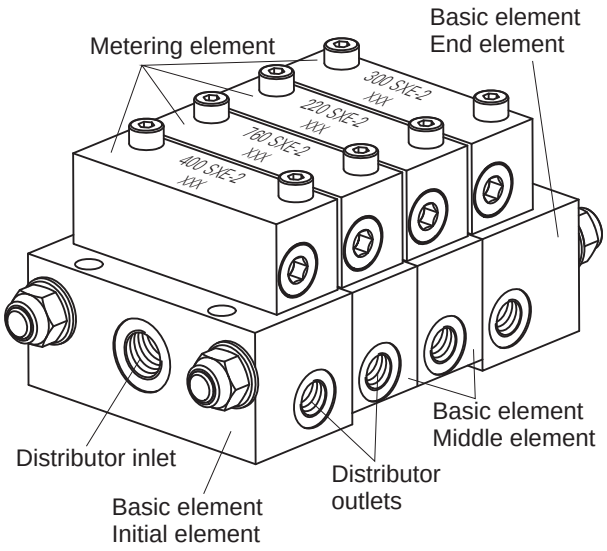

Tabelle Metering volume:

Designation metering elem.	Metering volume (mm³/stroke)		Code no.
	p. outlet	p. element	
000 SXE-2 (= Dummy elem.)	-	-	000
100 SXE-2	100	200	100
150 SXE-2	150	300	150
220 SXE-2	220	440	220
300 SXE-2	300	600	300
400 SXE-2	400	800	400
500 SXE-2	500	1000	500
620 SXE-2	620	1240	620
760 SXE-2	760	1520	760

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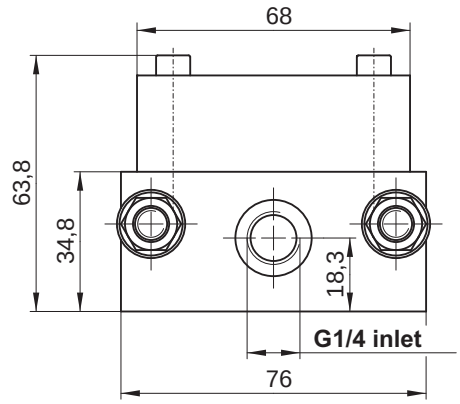
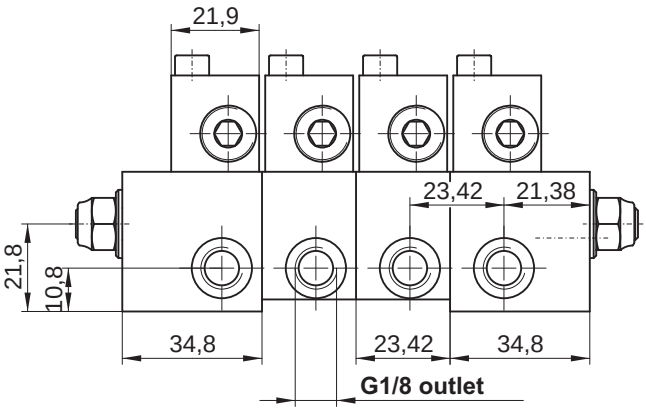
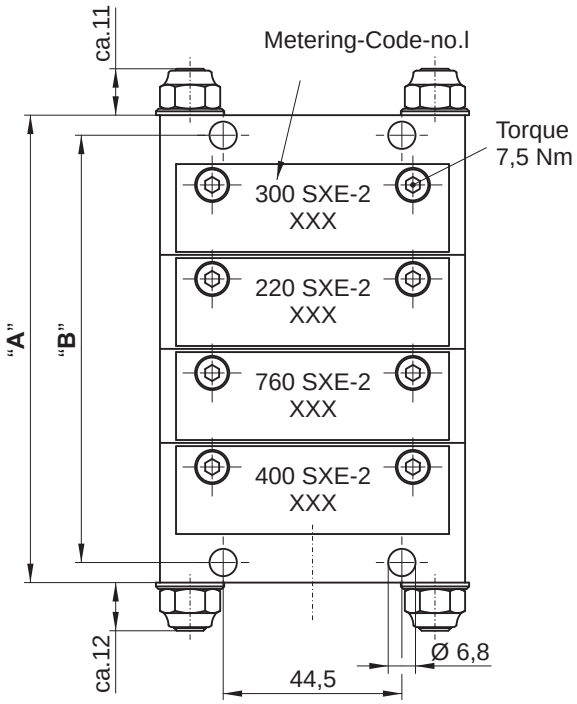
Dimensions







No. of metering elements	3	4	5	6	7	8	9	10
No. of outlets (max.)	6	8	10	12	14	16	18	20
Dim. "A" (mm)	93,0	116,5	139,9	163,3	186,7	210,1	233,5	257,0
Dim. "B" (mm)	83,0	106,5	129,9	153,3	176,7	200,1	223,5	247,0

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Basic elements

A “distributor disk” of the progressive distributor SXE-2 always consists of a basic element (without piston) and a metering element (with piston), respectively a dummy element (without piston).

The basic elements are divided into initial-, middle- and end elements. Each metering, respectively dummy element fits on each basic element.

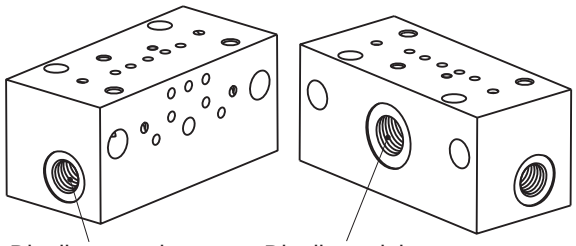
Three piston elements are necessary, i.e. each distributor has to contain at least three metering elements. Dummy elements do not contain pistons and therefore must not be counted.

Each distributor has to consist of one initial element, one to eight middle elements, one end element and three to ten metering elements.

The distributor inlet at the initial element is made as threaded connection G 1/4 and all distributor outlets as threaded connection G 1/8.

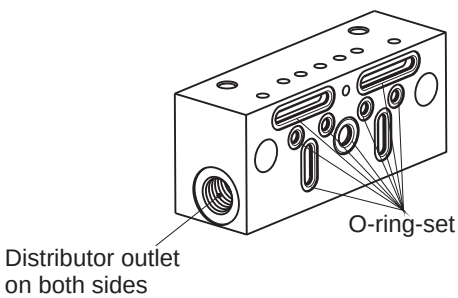
Initial element

Order-no.: 4003970000



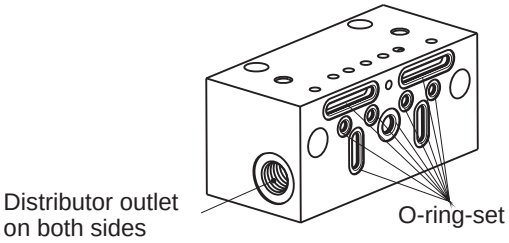
Middle element

Order-no.: 4003980000



End element

Order-no.: 4003990000



The O-rings which seal between the elements, have to be installed in the middle, respectively end element. On delivery, the O-rings are contained in every element. The necessary O-rings can be re-ordered in sets.

O-ring set for basic elements:
Order-no.: 4003000D005

Note: **When working at distributors, please pay attention to utmost cleanness.**

All pipe fittings with a suitable connection thread and a suitable nominal pressure can be screwed into the distributor inlet of the initial element as well as into the outlets (see “Accessory progressive distributor”, respectively “Fittings and accessories”).

Subject to alterations!

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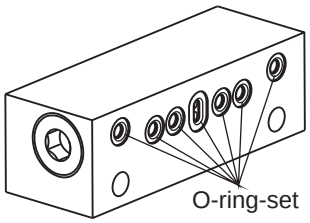
Metering elements

The metering elements of the progressive distributor SXE-2 measure out exactly the supplied lubricant. They contain pistons with different diameter which define the individual metering volumes.



Metering elements are each screwed onto the basic elements with two hexagon socket head cap screws DIN 912 - M5x35 - 12.9 with 7,5 Nm drawing torque.

Head cap screws DIN 912 - M5x35 - 12.9,
Order-no.: 090091202144

O-rings seal between the metering element and the basic element.
The necessary O-rings can be re-ordered in sets.
O-ring set for metering elements (resp. dummy elements):
Order-no.: 4003000D006

Metering elements can be delivered with eight different metering volumes, i.e. with eight different piston diameter.

Metering element	Order-no.
100 SXE-2	4003981001
150 SXE-2	4003982001
220 SXE-2	4003983001
300 SXE-2	4003984001
400 SXE-2	4003985001
500 SXE-2	4003986001
620 SXE-2	4003987001
760 SXE-2	4003988001

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Dummy elements

For reducing the number of outlets of an existing distributor, for unnecessary lube points or for providing outlets for lubrication points possibly to be attached, two outlets at the basic elements can be locked and a dummy element can be installed instead of the metering element.

A dummy element contains no piston and therefore no lubricant is metered.

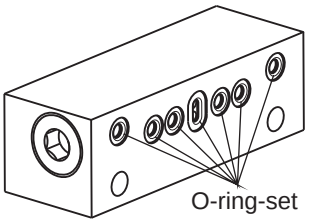
When a distributor is provided with a dummy element, the outlets of the following basic element, seen from the distributor inlet, have to be locked. The lubricant that would normally come out of the basic element's locked outlets, then comes out of the basic element's outlets below the dummy element.

At least three pistons are necessary for the distributor's function. Therefore the distributor has to consist of at least four basic elements, three metering elements and the dummy element when a dummy element has been installed.

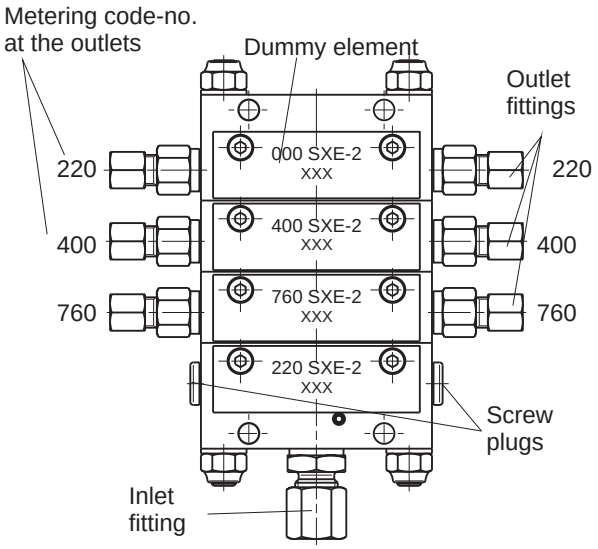
The sealing between the dummy element and the basic element is effected by O-rings, as at the metering elements. The O-ring set for metering elements can also be used here. The dummy elements, as well as the metering elements, are fixed on the basic element with two socket head cap screws DIN 912 - M5x35-12.9 with 7,5 Nm drawing torque.

Note: **When working at distributors, please pay attention to utmost cleanness.**

Dummy element **000 SXE-2** (w. set of O-rings)
Order-no.: 400398B001

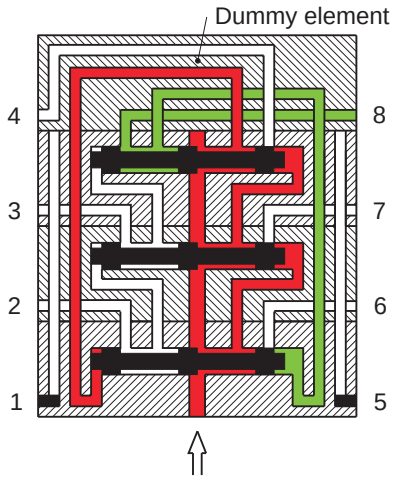


Example: Dummy element installed above the end element



The outlets of the initial element (1 and 5) are locked and the lubricant volume, which otherwise would come out of the initial elements' outlets, now is directed to the outlets (4 and 8) of the end element.

Functional scheme:



= pressure ducts
= following metering stroke

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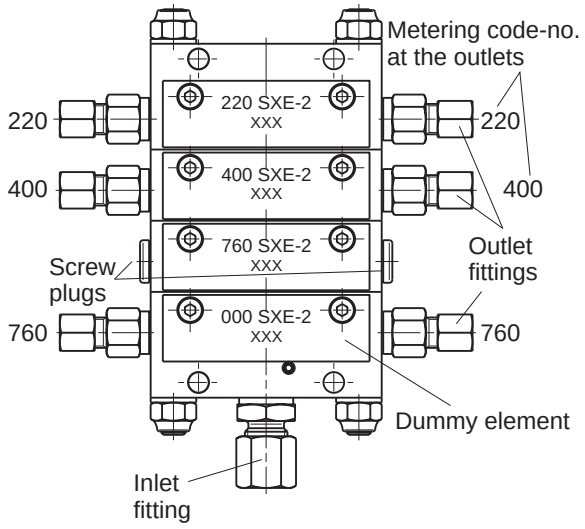
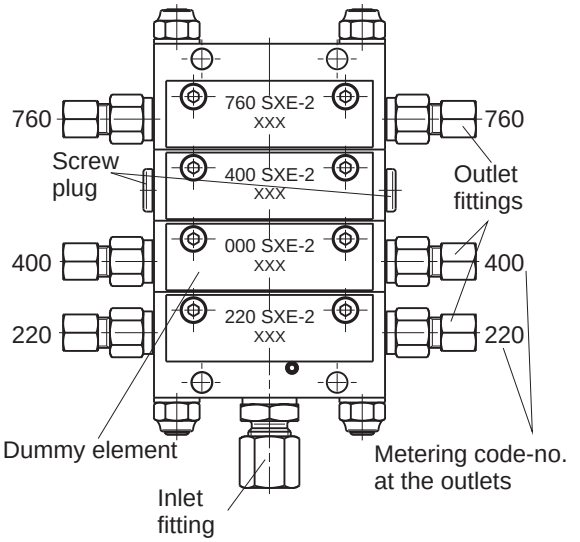
Example: Dummy element installed above the initital element

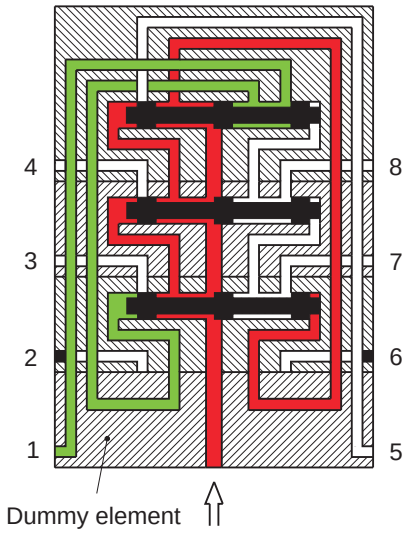


Example: Dummy element installed above the first middle element



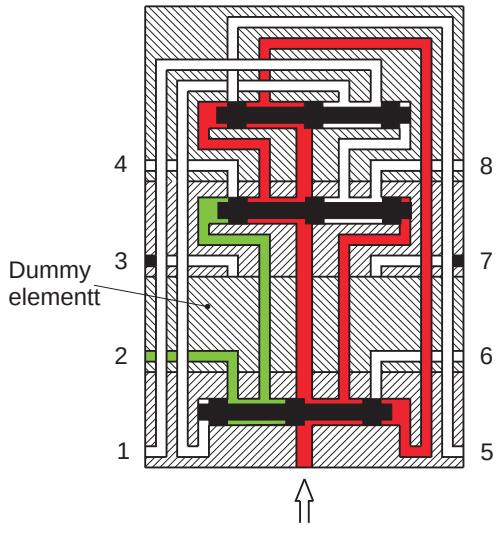
The outlets of the first middle element (2 and 6) are locked and the lubricant which otherwise would come out of them, is directed to the outlets (1 and 5) of the initial element.

Functional scheme:



The outlets of the second middle element, i.e. of the following middle element, are locked and the lubricant, which otherwise would come out of these outlets, comes out of the first middle element's outlets which has been provided with a dummy element.

Functional scheme:



= pressure ducts
=following metering stroke

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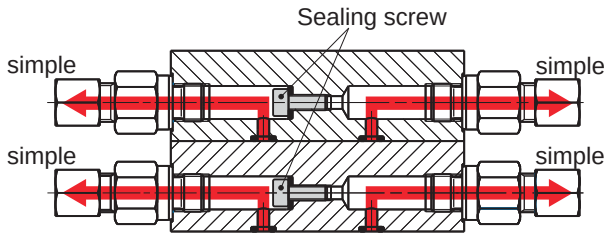
Combination of outlets

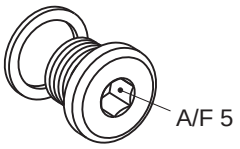
For lube points with a high metering volume, it can be necessary to combine two or several outlets at the progressive distributor.

Each basic element of the progressive distributor has two outlets.



Combination of outlets

Screw plug with sealing ring for locking outlets:

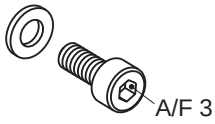


Order-no.:

Screw plug G 1/8:	090090800313
Sealing ring A10x13,5x1:	090760303911

Separating outlets

To separate combined outlets, the sealing screw with sealing ring has to be screwed in again.
Sealing screw and sealing ring for separating outlets:

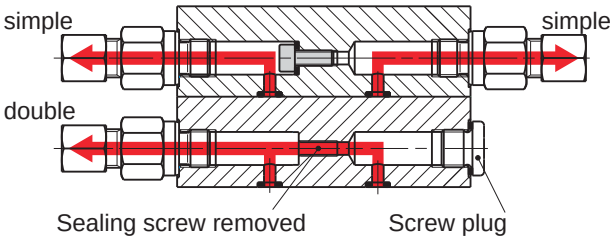


Order-no.:

Sealing screw M4x10:	090091200223
Sealing ring A4x8x1:	090760301211

Combination of outlets at one distributor disk

For collecting the lubricant of two outlets at the same basic element, both outlets of the basic element can be connected by removing the sealing screw between the outlet sides and locking one outlet with a screw plug with sealing ring. The volume of the locked side now comes out of the open side too, i.e. the metering volume of the open side doubles.
Two outlets of one distributor disk combined:



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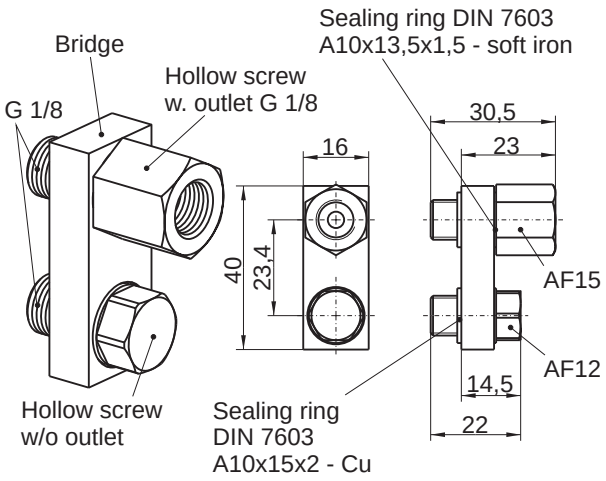
Combination of outlets at several distributor disks

Should the total metering volume of a progressive distributor's disk even with combined outlets be insufficient, at very large bearing points or at main distributors e.g., there is also the possibility to combine the outlets of several distributor disks.

Distributor bridge with outlet

With distributor bridges with outlet , two, three or four outlets can be connected at different, adjacent distributor disks.



Order-no., total: 4003980010011

Consisting of:

1 Bridge

Order-no.:F0365/41-00

1 Hollow screw without outlet,

Order-no.: F0408/15-00

1 Hollow screw with outlet,

Order-no.: F0408/14-01

2 Sealing rings DIN 7603-A10x13,5x1,5 soft iron

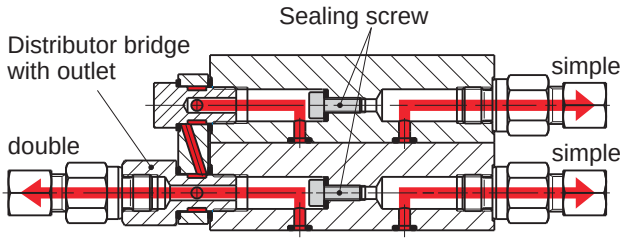
Order-no.: 090760305121 (1 piece)

2 Sealing rings DIN 7603-A10x15x2 - Cu

Order-no.: 090760301911 (1 piece)

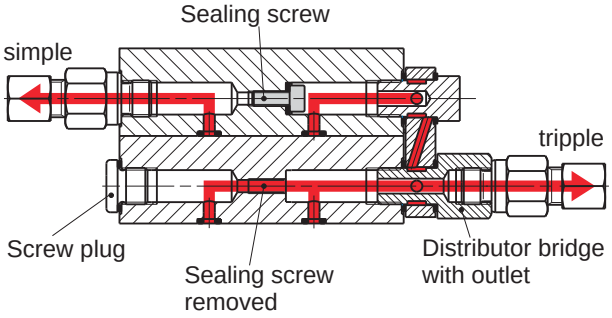
Two outlets combined at two different distributor disks

The metering volume of two outlets of adjacent distributor disks can be combined with a distributor bridge with outlet. For this purpose, the outlet fittings of the two outlets to be connected are removed and instead of them a distributor bridge with outlet is fixed. The sealing screws between the outlets of the individual distributor elements have to be kept. The metering volume of the two outlets now comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of the these outlets accumulate.



Three outlets combined at two different distributor disks

If three outlets shall be combined, the sealing screw has to be removed from one of the concerned basic elements. The outlet fittings of the adjacent distributor disks whose outlets shall be combined are replaced on one side by a distributor bridge with outlet. The outlet opposite to the distributor bridge at the basic element, of which the sealing screw has been removed, is locked with a screw plug. All three outlets' metering volume then comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.



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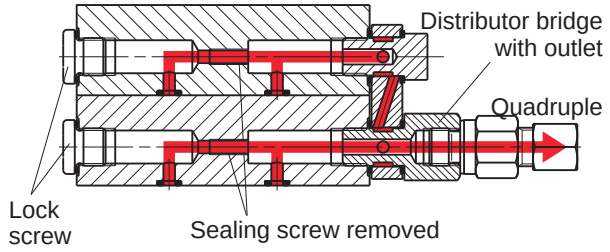
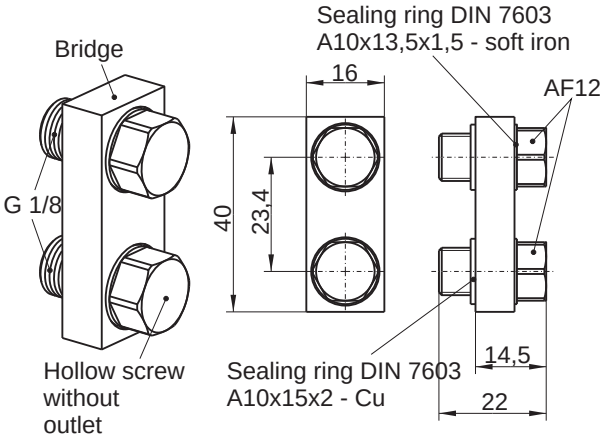
Four outlets combined at two different distributor disks

If four outlets shall be combined, the sealing screw has to be removed from both basic elements and a screw plug has to be screwed into each of the two outlets opposite to the distributor bridge. All four outlets' metering volume then comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.



Distributor bridge without outlet

With a distributor bridge without outlet, three or four outlets can be connected with each other at different, adjacent distributor disks.



Order-no., total: 4003980010010

Consisting of:

1 Bridge

Order-no.: F0365/41-00

2 Hollow screws without outlet,

Order-no.:F0408/15-00

2 Seals A10x13,5x1,5,

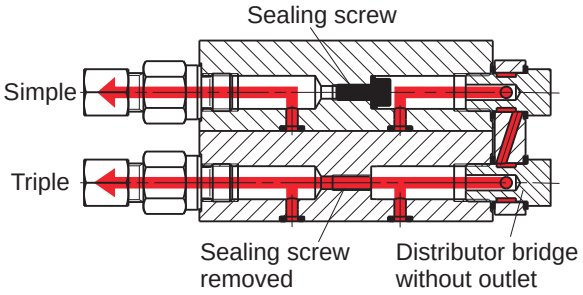
Order-no.:090760305121 (1 piece)

2 Seals A10x15x2,

Order-no.:090760301911 (1 piece)

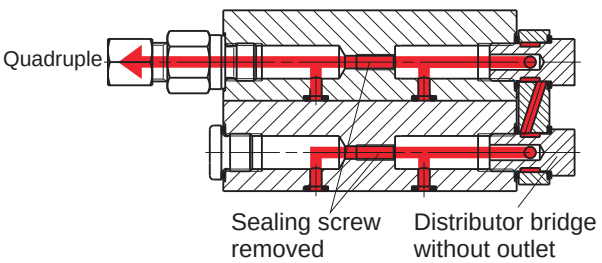
Three outlets combined at two different distributor disks

If three outlets shall be combined, the sealing screw has to be removed from one of the concerned basic elements. The outlet fittings of the adjacent distributor disks, whose outlets shall be combined, are replaced on one side by a distributor disk. The outlet opposite to the distributor disk at the basic element, of which the sealing screw has been removed, now serves as outlet for the metering volumes of all outlets connected with each other.



Four outlets combined at two different distributor disks

If four outlets shall be combined, the sealing screws have to be removed from both concerned basic elements. The outlet fittings of both distributor disks which have to be combined are replaced on one side by a distributor bridge without outlet. One of the outlets opposite to the distributor bridge has to be locked with a screw plug. The other outlet now serves as outlet for the combined metering quantities of all outlets of the concerned distributor disks.



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Elements with proximity switch

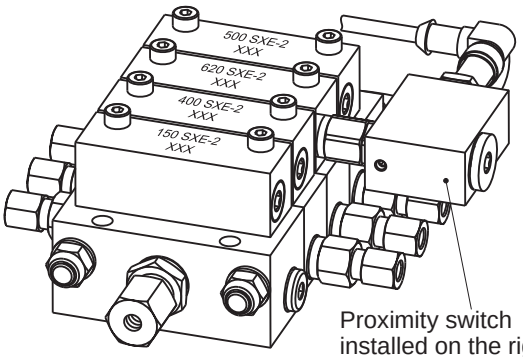
For monitoring the system or for the use of cycle controls for counting the piston strokes can proximity switches be attached to progressive distributors SXE-2.

Proximity switches can be delivered premounted to metering elements 400 SXE-2 to 760 SXE-2. The installation position of the proximity switch is on the right as standard. Installation on the left side has to be indicated separately.

Metering elements with proximity switch have to be indicated separately when the order is placed, as a later installation of a proximity switch to an existing metering element is not possible.

A proximity switch can only be retrofitted at a progressive distributor, when the concerned metering element is exchanged.

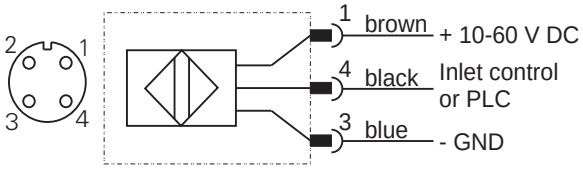
The proximity switch is delivered without a cable; this cable has to be ordered separately (see “Accessory progressive distributors”).



Technical data of the proximity switch:

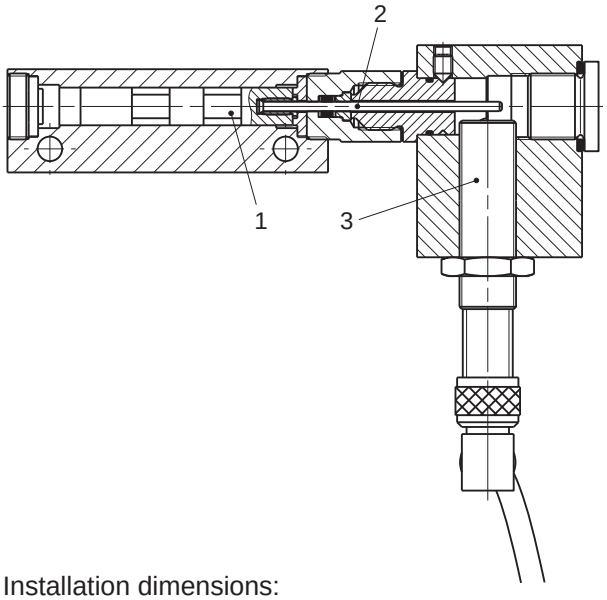
Connection:	M12x1 pluggable
Switching method:	PNP NO
Load capacity:	200 mA
Possible voltage:	10 - 60 V DC
Per. ambient temperature:	-40 °C to 85 °C
Function indicator:	LED yellow
Housing material:	stainless steel
Protection class:	IP 67 / IP 69K

Terminal diagram:

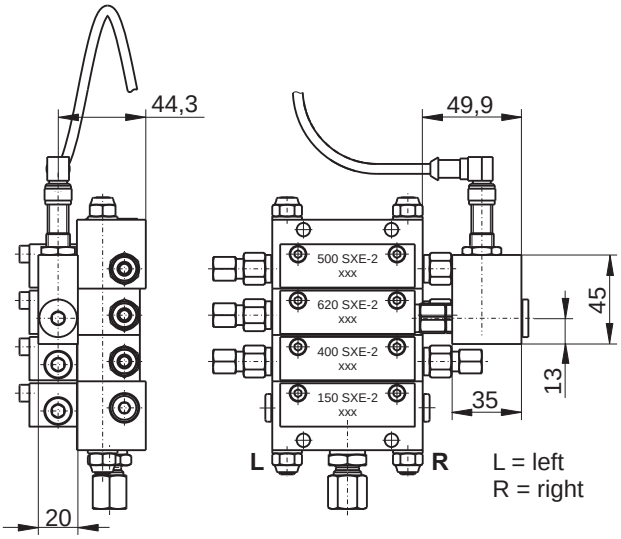


Functional description:

A pin (2) is fixed at the piston (1) of the metering element. The pin approaches the proximity switch (3) with each piston stroke and initiates a signal. The signal can be, depending on the type of control or the individual application case, evaluated differently.



Installation dimensions:



Metering elements with proximity switch:

Metering elem. with NS M12x1	Pos.	Order-no.
400 SXE-2 NS	right	40039851N1
	left	40039851N2
500 SXE-2 NS	right	40039861N1
	left	40039861N2
620 SXE-2 NS	right	40039871N1
	left	40039871N2
760 SXE-2 NS	right	40039881N1
	left	40039881N2

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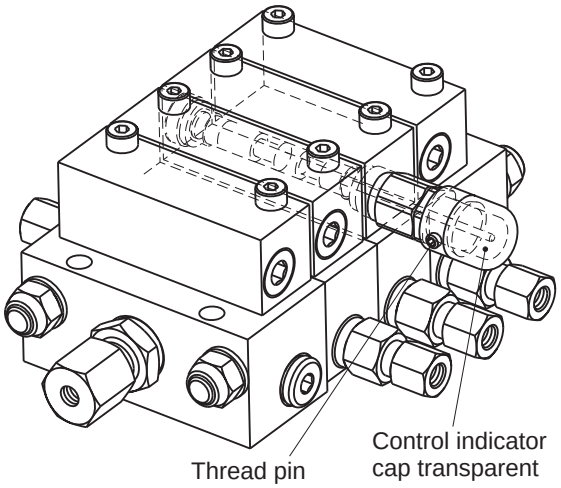
Elements with indicator pin

An indicator pin can also be mounted to the progressive distributors of the type SXE-2, instead of the proximity switch. However, it can only be installed according to standard on the right side at metering elements 400 SXE-2 to 760 SXE-2. A later installation is not possible, the indicator pin has to be considered when the order is placed.



Functional description:

A pin (2) is fixed at the metering element's piston (1). This pin appears in the transparent cap (3) with every piston stroke.

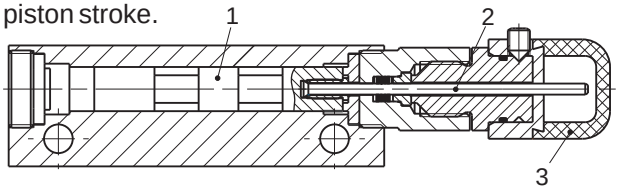


Table of order-no. for metering element with control indicator pin with cap:

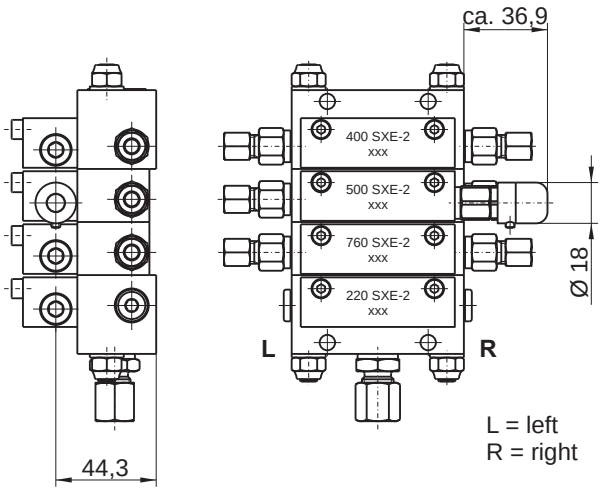
Metering elem. w. indicator pin	Pos.	Order-no.
400 SXE-2 HS	right	40039851H1
	left	40039851H2
500 SXE-2 HS	right	40039861H1
	left	40039861H2
620 SXE-2 HS	right	40039871H1
	left	40039871H2
760 SXE-2 HS	right	40039881H1
	left	40039881H2

** Please indicate the installation position of the indicator pin: on the right (standard) or on the left*

The transparent cap (pin cover) of the indicator pin can be ordered separately.

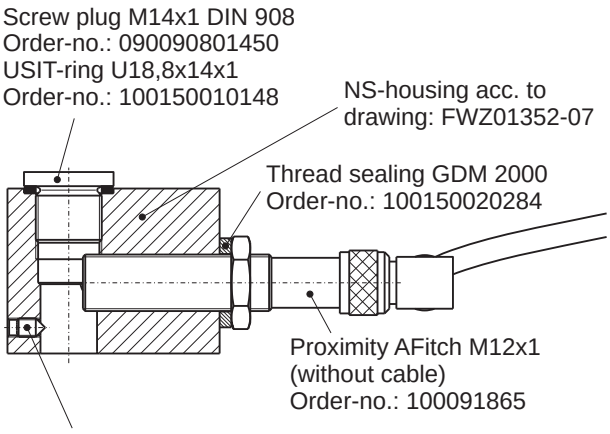
Order-no.: 4003000S003

Installation dimensions:



The proximity switch can be attached to metering elements with indicator pin

Order-no. complete: 400300N002



The proximity switch is preadjusted!

For a later installation of a proximity switch, unscrew the setscrew and pull off the indicator pin's cap. Then the proximity switch can be put on and the setscrew can be screwed in again.

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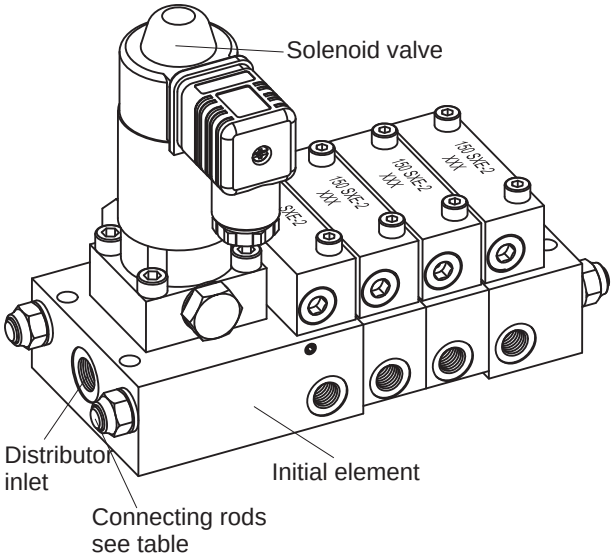
Special accessory solenoid valve

A solenoid valve can also be attached to progressive distributors SXE-2.

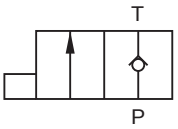
The solenoid valve serves to switch the volume flow time-depending on the progressive distributors.

A lubricant volume flow of 2 l/min must not be exceeded.

The initial element contains the holding fixture for the solenoid valve.



Switch symbol (seat valve):



Order-no.:

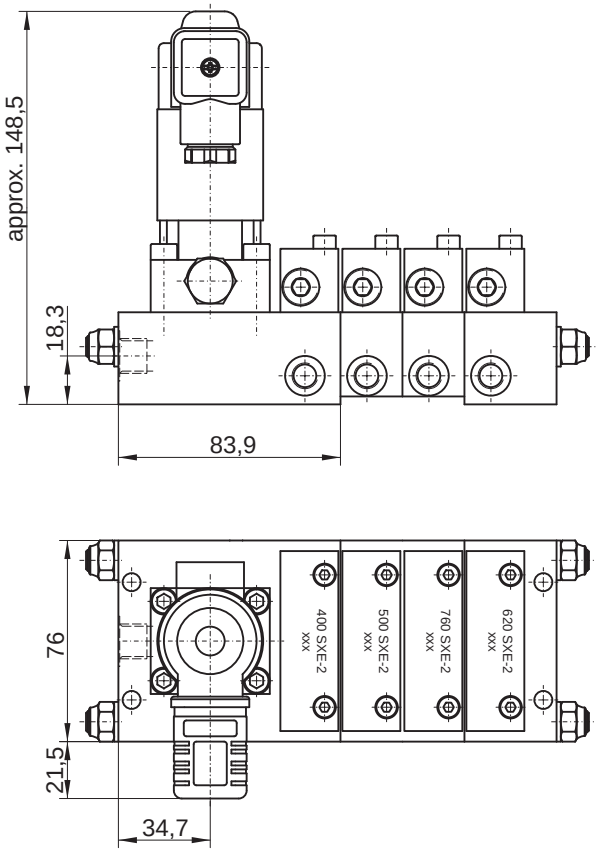
Initial element	4003970001
Solenoid valve GR 2-1-N24 ..... 24 V DC	04100885
Solenoid valve GR 2-1-W110 ..... 110 V AC	04101004
Solenoid valve GR 2-1-W220 ..... 220 V AC	04101005

When an initial element with solenoid valve is installed, other connecting rods are required (see table).

Table of connecting rods (1 piece):

Distributor	Conn. rod	Order-no.
SXE-2 3/6	M8 x 174	0802000421
SXE-2 4/8	M8 x 192	0802000677
SXE-2 5/10	M8 x 221	0802000678
SXE-2 6/12	M8 x 242	0802000556
SXE-2 7/14	M8 x 262	0802000557
SXE-2 8/16	M8 x 294	0802000425
SXE-2 9/18	M8 x 310	0802000680
SXE-2 10/20	M8 x 340	0802000681

Dimensional drawing:



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Exchange of a metering element

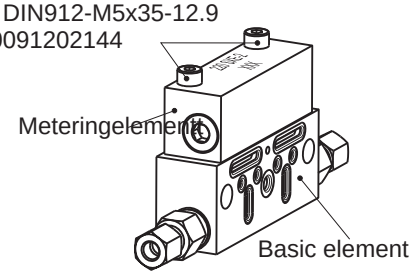
The metering volumes of an existing distributor can be modified by exchanging a metering element.

Description:

- loosen two fillister head cap screws
- remove the existing metering, resp. dummy element
- put a new metering or dummy element onto the basic element
- screw in the fillister head cap screws again (7,5 Nm).

SXE-2 distributor disk:

Cylinder screw DIN912-M5x35-12.9
Order-no.: 090091202144



The distributor disks shall be premounted, before they are fit into the distributor. To this purpose are a metering element and a basic element screwed together as described above.

After that, the new disks can be installed into the existing distributor.

Extension or shortening of distributors

Progressive distributors SXE-2 can any time be adapted to the application conditions because of their modular design.

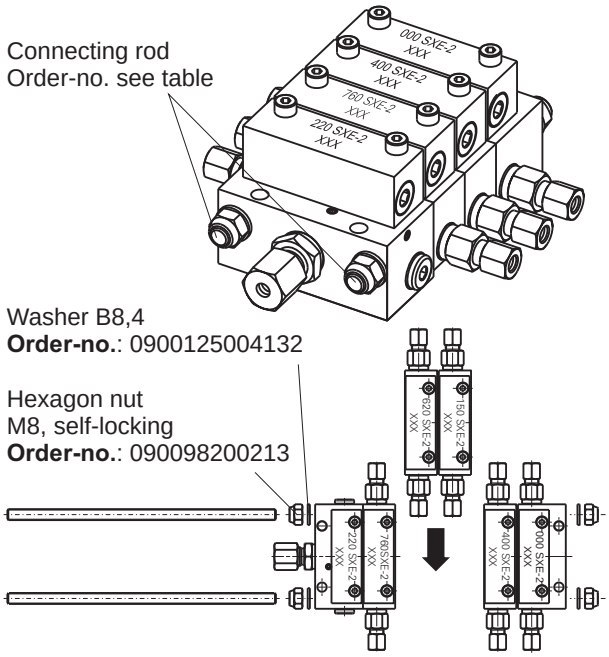
If new lubrication points should be added or some become unnecessary, the distributor can be extended or shortened by the installation or removal of distributor disks and with a dummy element, distributor outlets can be closed.

Description:

- remove nuts at both ends of the connecting rods and take the connecting rods out
- separate the distributor at the desired point
- add the new distributor disks or remove unnecessary ones
- screw the distributor together with the corresponding connecting rods, nuts and washers (see table)

SXE-2 distributor 4/6:

Connecting rod
Order-no. see table



Washer B8,4
Order-no.: 0900125004132

Hexagon nut
M8, self-locking
Order-no.: 090098200213

Table of connecting rods (1 piece):

Distributor	Conn. rod	Order-no.
SXE-2 3/6	M8 x 117	0802000400
SXE-2 4/8	M8 x 140	0802000401
SXE-2 5/10	M8 x 166	0802000552
SXE-2 6/12	M8 x 190	0802000403
SXE-2 7/14	M8 x 213	0802000404
SXE-2 8/16	M8 x 237	0802000405
SXE-2 9/18	M8 x 257	0802000406
SXE-2 10/20	M8 x 280	0802000407

If one of the O-rings used for sealing the distributor between the individual elements gets damaged and does not seal anymore, the O-rings for the basic elements, respectively for the metering elements, can be ordered in sets (see “Basic elements” or “Metering elements”)..

Note: **Please pay attention to utmost cleanness when doing these works.**

Note: A SXE-2 distributor has to consist of at least three metering elements and ten

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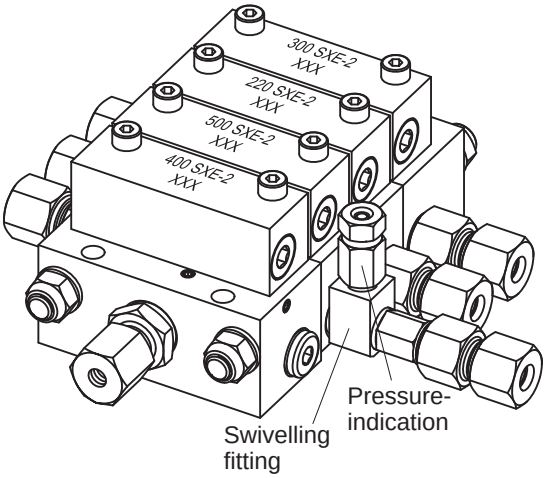
Pressure indicator

The pressure indicator serves for locating locked lubrication lines or progressive distributors.

It can be used in the distributor inlet as well as in the distributor outlet for the blockade monitoring of individual lubrication points and series-connected progressive distributors (secondary distributors).

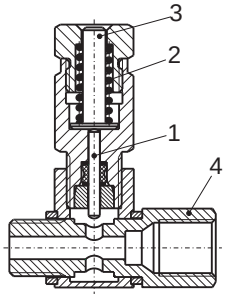


Installation:

The pressure indicator is installed into a swivelling fitting (4) and this connection then is screwed into the distributor. The connection fitting has to be screwed into the swivelling fitting.

Functional description:

When the pressure increases, the pin (1) is pushed out against the power of the spring (2) and the indication pin (3) becomes visible. When the pressure is reduced, the spring (2) pushes the indication pin (3) back again.



See order numbers and installation dimensions under “Accessory progressive distributors”.

When the distributor’s function should be ensured despite a closed outlet, the distributor can be provided with a **blockade control.** See under “Accessory progressive distributors”.

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Order key

Special accessory

A solenoid valve can be attached as special accessory to SXE-2 distributors.

Accesso.	Designation
00	without special accessories
MV	solenoid valve GR 2-1-N24 with initial element

Distributor inlet

The progressive distributor SXE-2 can be delivered with or without fittings. Should the fittings be delivered already installed into the distributor, they have to be marked with the pipe diameter and the series :

Inlet	Designation
G1/4	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10 or 12, series L
GE08L	
GE10L	
GE12L	
WE08L	elbow screw fitting, pipe-Ø 8 or 10, series L
WE10L	
WS08L	elbow swiveling screw fitting, pipe-Ø 8 or 10, series L
WS10L	

The connections can also be ordered separately (see “Accessory progressive distributors” or “Fittings and accessories”).

When no indication concerning the fittings is done, delivery is without fittings as standard!

Distributor outlet

The type of couplings at the distributor outlets has to be indicated with the diameter and the series L, respectively LL, when the order is placed:

Outlets	Designation
G1/8	without fitting
GE06LL	male stud coupling, pipe-Ø 6 or 8, series L or LL
GE06L	
GE08LL	
RGE06LL	non-return valve, pipe-Ø 6 or 8, series L or LL
RGE06L	
RGE08LL	
RGE08L	

Caution:

Without an indication of the series, a straight fitting or a non-return valve of the series L (cutting olive) is delivered as standard.

Metering volume

The metering code numbers **100** to **760** (see table “Technical description”) of the metering elements have to be indicated on the one hand according to the position of the metering elements and on the other hand in the order, in which the lubricant comes out on each side from the distributor inlet and have to be separated by a **slash** (/). For the distributor bridges please make a **plus** (+) instead of the slash.

When indicating the position, dummy elements have to be marked with **000** in the order key.

At combined outlets, the metering volume code numbers accumulate (see “Combination of Outlets”). Screw plugs and outlets which are closed by distributor bridges, are marked with a **line** (---). The sealing screw that has to be removed, has to be shown with a **star** (*) in the drawing.

Proximity switch

Metering elements to which a proximity switch shall be attached, have to be marked with **NS**. Proximity switches can be installed on the right side (standard) or on the left side, as requested.

04-2-10-15 state: 05.10GB

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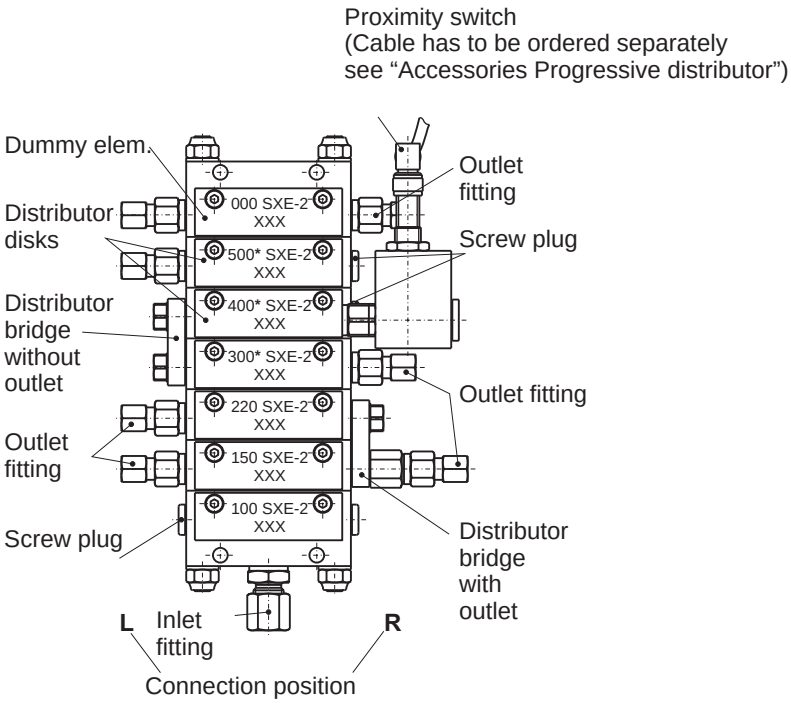
Order example:



* = Sealing screw removed!

Type	SXE-2 00 07 / 07 - GE06L / RGE06L									
Spec. accessor.										
No. of metering / dummy elements										
No. of outlets										
Inlet fitting										
Outlet fitting										
Pos. of metering / dummy elements (at outlet)										
Connection position										
Metering code no. at outlet										
	100 /	150 /	220 /	300 /	400 /		500 /	000		
	R --- /	370 + --- /	1400 /	--- NS /	--- /	100				
	L --- /	150 /	220 /	--- +	--- /	1000 /	100			

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Technical description

Progressive distributors SXE-3 are built in a variable disk construction. Therefore the distributor can optionally be arranged, depending on the number of lubrication points and their lubricant need.

The progressive distributor SXE-3 consists of distributor disks. Each of these disks consists of a basic element and a metering, respectively a dummy element. Basic elements are divided into initial-, middle- and end elements.

Because of the variable system the individual outlets' metering volume as well as the number of outlets can be changed.

The different metering volume per stroke is effected by different piston diameter of the metering elements.

For reducing the number of distributor outlets of an existing progressive distributor SXE-3, a dummy element is available or a basic element with metering element can be removed. In order to enlarge the distributor, an additional basic element with metering element can be inserted.

A progressive distributor needs at least three metering elements (piston elements).

Technical data

Operating pressure - inlet : max. 300 bar

Temperature range: -35 °C to 80 °C

Lubricant: oil - fluid grease - grease up to NLGI-cl. 2

No. of revolutions: max. 180 rev./min

Material: steel, galvanized

stainless model possible on enquiry

Number of elements:

Min. 3 metering elements: SXE-2/3 3/6

Max. 10 metering elements: SXE-2/3 10/20

Progressive distributor SXE-3 with four distributor disks and eight outlets:

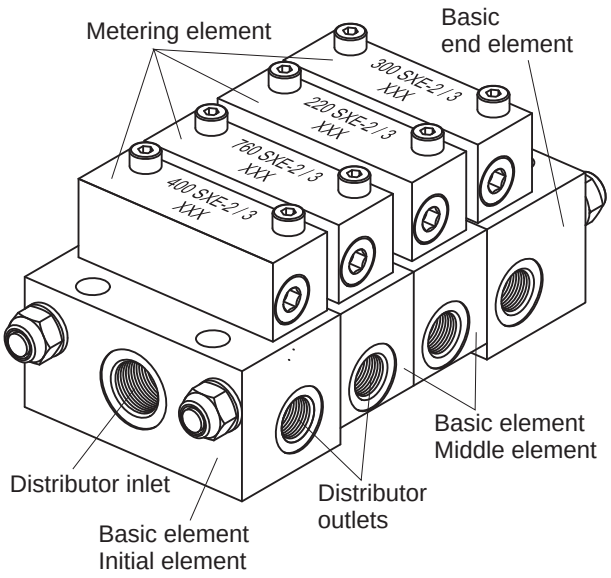

Tabelle Metering volume:

Designation metering element	Metering volume (mm³/stroke)		Code no.
	p. outlet	p. element	
000 SXE-2/3 (= dummy elem.)	-	-	000
100 SXE-2/3	100	200	100
150 SXE-2/3	150	300	150
220 SXE-2/3	220	440	220
300 SXE-2/3	300	600	300
400 SXE-2/3	400	800	400
500 SXE-2/3	500	1000	500
620 SXE-2/3	620	1240	620
760 SXE-2/3	760	1520	760

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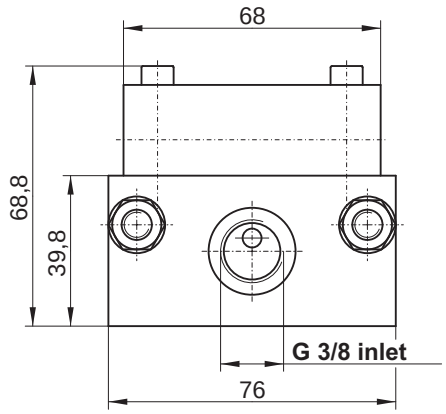
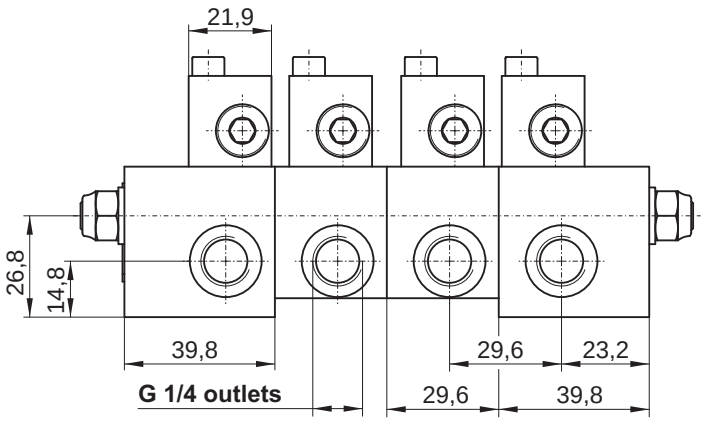
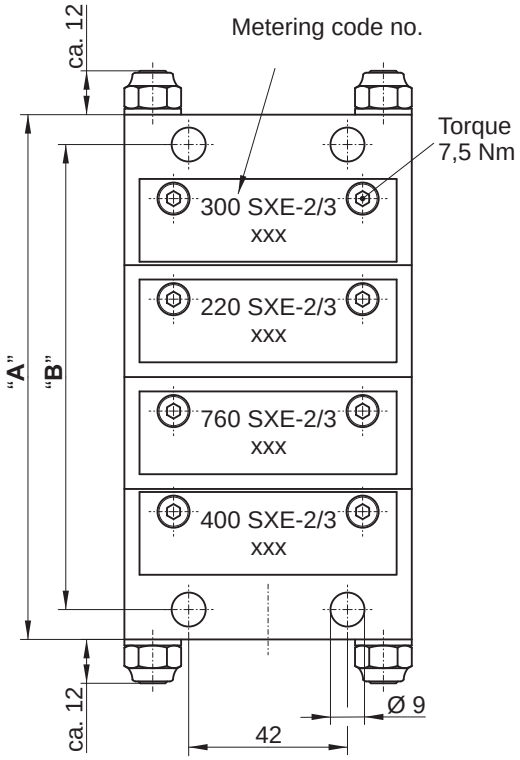
Dimension drawing:







No. of metering elements	3	4	5	6	7	8	9	10
No. of outlets (max.)	6	8	10	12	14	16	18	20
Dim. "A" (mm)	109,2	138,8	168,4	198,0	227,6	257,2	233,5	257,0
Dim. "B" (mm)	93,4	123,0	152,6	182,2	211,8	241,4	223,5	247,0

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Basic elements

The progressive distributor SXE-3 consists of distributor disks. Those distributor disks consist of a basic element (without piston) and a metering element (with piston), respectively a dummy element (without piston).

The basic elements are divided into initial-, middle- and end elements. Each metering-respectively dummy element fits on every basic element.

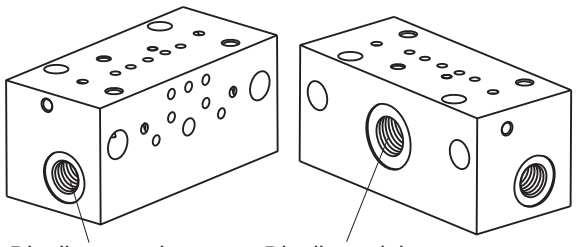
At least three piston elements are required for the function of a progressive distributor SXE-3, i.e. every distributor has to contain at least three piston elements. Dummy elements do not contain pistons and therefore must not be counted.

Each distributor has to consist of one initial element, one to eight middle elements, and end element and three to ten metering elements.

The distributor inlet is made as threaded connection G 3/8 and all distributor outlets as threaded connection G 1/4.

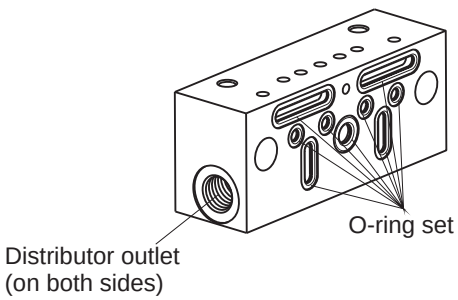
Initial element

Order-no.: 3985970000



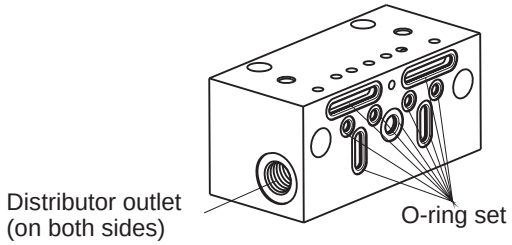
Middle element

Order-no.: 3985980000



End element

Order-no.: 3985990000



The sealing between the elements is effected with O-rings which have to be installed in the middle, respectively the end element. On delivery, the O-rings are contained in every element. The necessary O-rings can be re-ordered in sets.

O-ring set for basic elements:

Order-no.: 4003000D005

Note: **When working at distributors, please pay attention to utmost cleanness.**

Into the initial element's distributor inlet as well as into the distributor outlets, all pipe fittings with a suitable connection thread and a suitable nominal pressure can be screwed in (see "Accessory progressive distributor", respectively "Fittings and accessories")

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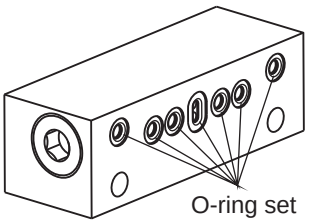
Metering elements

Caution: The metering elements of the progressive distributors SXE-2 and SXE-3 are identical in construction.

They are responsible for the exact share of the delivered lubricant and contain pistons with different diameters for the individual metering volumes.



Metering elements are each fixed on the basic elements with two socket head cap screws DIN 912 - M5x35 - 12.9 with 7,5 Nm drawing torque.

Socket head cap screw DIN 912 - M5x35 - 12.9,
Order-no.: 090091202144

The sealing between metering element and basic element is effected with O-rings.
The necessary O-rings can be re-ordered in sets.
O-ring set for metering elements (resp. dummy elements):
Order-no.: 4003000D006

Metering elements can be delivered with eight different metering volumes, i.e. with eight different piston diameter.

Metering element	Order-no.
100 SXE-2/3	4003981001
150 SXE-2/3	4003982001
220 SXE-2/3	4003983001
300 SXE-2/3	4003984001
400 SXE-2/3	4003985001
500 SXE-2/3	4003986001
620 SXE-2/3	4003987001
760 SXE-2/3	4003988001

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Dummy elements

For reducing the number of outlets of an existing distributor, for unnecessary lube points or for providing outlets for lubrication points, possibly to be attached, two outlets at the basic elements can be locked and a dummy element can be installed instead of the metering element.

A dummy element contains no piston and therefore no lubricant volume is metered.

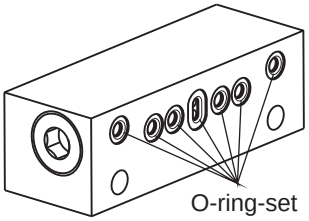
When a distributor is provided with a dummy element, the outlets of the following basic element, seen from the distributor inlet, have to be locked. The lubricant that would normally come out of the locked outlets of the basic element, then comes out of the basic element's outlets below the dummy element.

At the time of the installation of a dummy element, a distributor has to consist of at least four basic elements, three metering elements and one dummy element, as at least three pistons are necessary for the function.

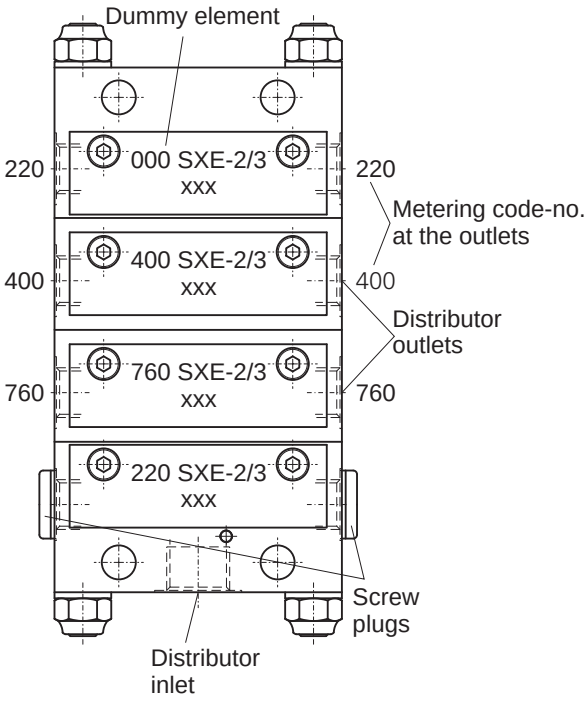
The sealing between the dummy element and the basic element is effected by O-rings. The O-ring set for metering elements can also be used here. The dummy elements, as well as the metering elements, are fixed on the basic element with two socket head cap screws DIN 912 - M5x35-12.9 with 7,5 Nm drawing torque.

Note: **When working at distributors, please pay attention to utmost cleanness.**

Dummy element **000 SXE-2/3** (w. set of O-rings),
Order-no.: 400398B001

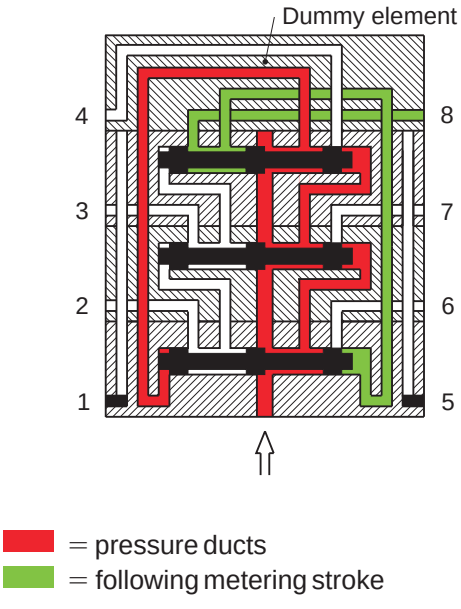


Example: Dummy element installed above the end element



The initial element's outlets (1 and 5) are locked and the lubricant volume, which otherwise would come out of these outlets, now is directed to the outlets (4 and 8) of the end element.

Functional diagram:



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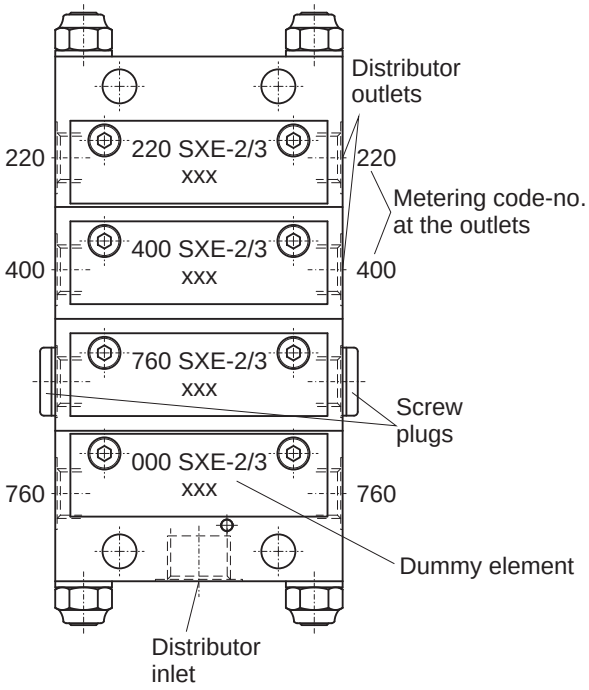
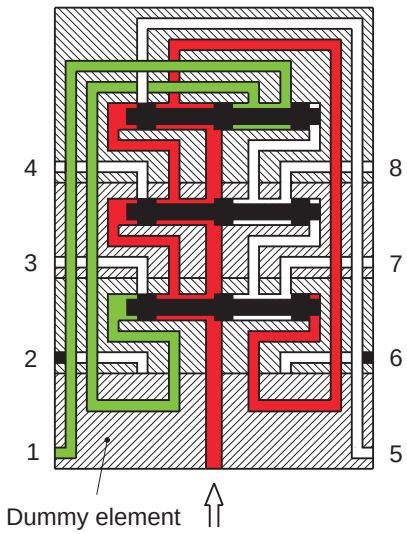
Example: Dummy element installed above the initial element

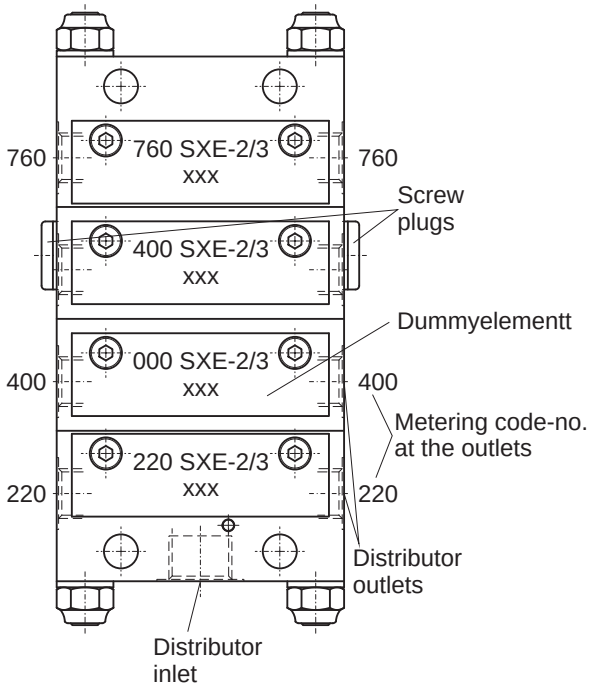


The outlets of the first middle element (2 and 6) are locked and the lubricant, which otherwise would come out of these outlets, now is directed to the outlets 1 and 5 of the initial elements.

Functional diagram:

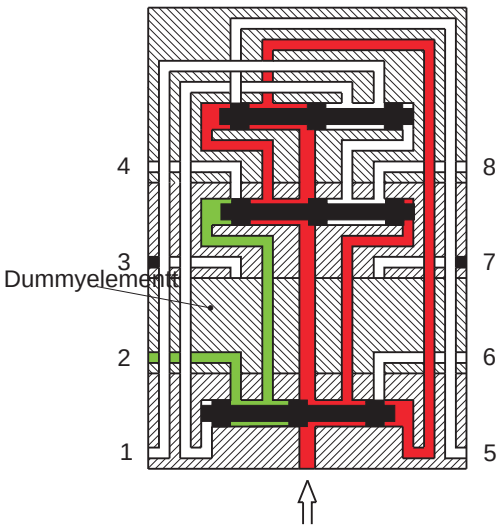


Example: Dummy element installed above the first middle element



The outlets of the second middle element, i.e. the outlets of the following middle element, are locked and the lubricant, which otherwise would come out of these elements, now comes out of the outlets of the first middle element which has been provided with the dummy element.

Functional diagram:



= pressure ducts
= following metering stroke

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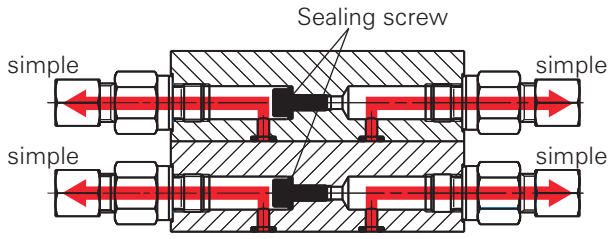
Combination of outlets

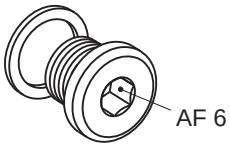
For lube points with a high metering volume, it can be necessary to combine two or several outlets at the progressive distributor.

Each basic element of the progressive distributor has two outlets.



Combination of outlets

Screw plug with sealing ring for locking outlets:



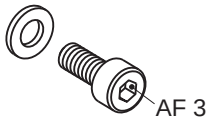
Order-no.:

Screw plug G 1/4:	090090800513
Sealing ring A14x18x1,5:	090760300621

Separating outlets

To separate combined outlets, the sealing screw with sealing ring has to be screwed in again.

Sealing screw and sealing ring for separating outlets:



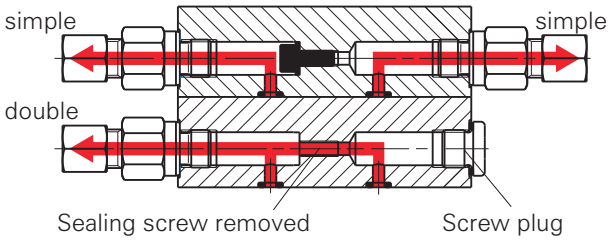
Order-no.:

Sealing screw M4x10:	090091200223
Sealing ring A4x8x1:	090760301211

Combination of outlets at one distributor disk

For collecting the lubricant of two outlets at the same basic element, both outlets of the basic element can be connected by removing the sealing screw between the outlet sides and locking one outlet with a screw plug with sealing ring. The metering volume of the locked side now comes out of the open side too, i.e. the metering volume of the open side doubles.

Two outlets of one distributor disk combined:



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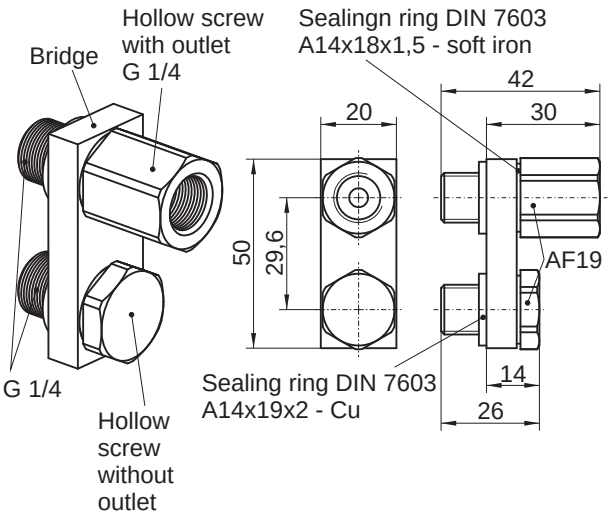
Combination of outlets at several distributor disks

Should the total metering volume of a progressive distributor's disk even with combined outlets be insufficient, at very large bearing points or for main distributors e.g., there is also the possibility to combine the outlets of several distributor disks.

Distributor bridge with outlet

With distributor bridges with outlet , two, three or four outlets can be connected at different, adjacent distributor disks.



Order-no. total: 3985980010011

Consisting of:

1 Bridge

Order-no.:F3985/04-00

1 Hollow screw without outlet

Order-no.: F0361/58-00

1 Hollow screw with outlet

Order-no.: F0361/59-00

2 Sealing rings A14x18x1,5,

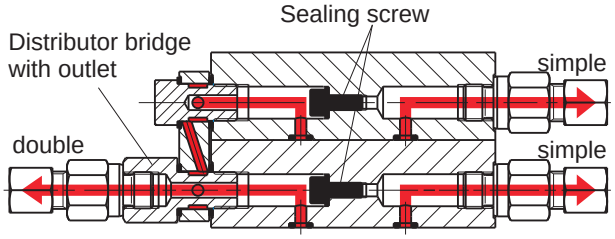
Order-no.: 090760300621 (1 piece)

2 Sealing rings A14x19x2,

Order-no.: 090760303111 (1 piece)

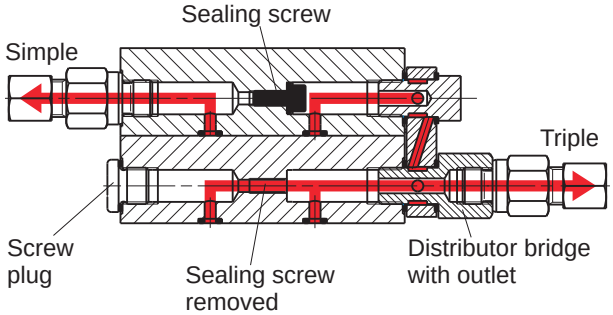
Two outlets combined at two different distributor disks

The metering volume of two outlets of different, adjacent distributor disks can be combined with the help of a distributor bridge with outlet. To this purpose, the fittings of the two outlets to be connected are removed and instead of them a distributor bridge with outlet is fixed. The sealing screws between the outlets of the distributor elements have to be kept. The metering volume of the two outlets now comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.



Three outlets combined at two different distributor disks

If three outlets shall be combined, the sealing screw has to be removed from one of the concerned basic elements. The outlet fittings of the adjacent distributor disks whose outlets shall be combined with each other are replaced on one side by a distributor bridge with outlet. The outlet opposite to the distributor bridge at the basic element of which the sealing screw has been removed is locked with a screw plug. All three outlets' metering volume then comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.



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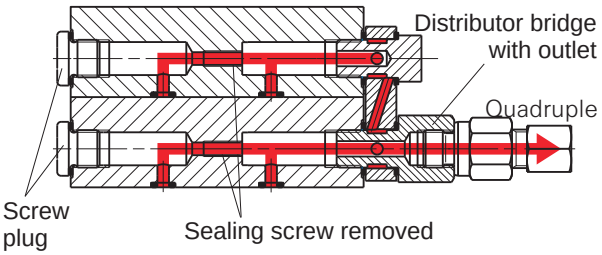
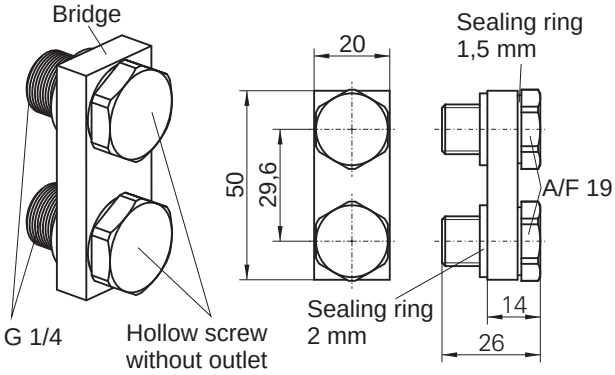
Four outlets combined at two different distributor disks

If four outlets shall be combined, the sealing screw has to be removed from both basic elements and a screw plug has to be screwed into each of the two outlets opposite to the distributor bridge. The metering volume of all four outlets comes out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.



Distributor bridge without outlet

With a distributor bridge without outlet, three or four outlets can be connected with each other at different, adjacent distributor disks.



Order-no. total: 3985980010010

Consisting of:

1 Bridge
Order-no.: F3985/04-00

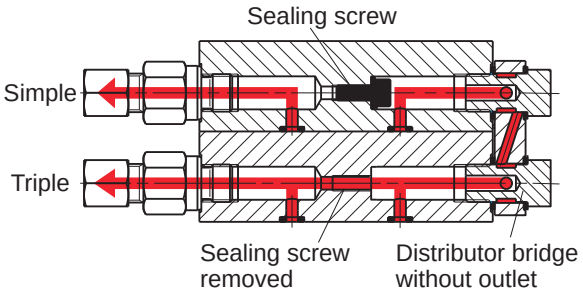
2 Hollow screws without outlet,
Order-no.:F0361/58-00

2 Seals A14x18x1,5,
Order-no.:090760300621 (1 piece)

2 Seals A14x19x2,
Order-no.:090760303111 (1 piece)

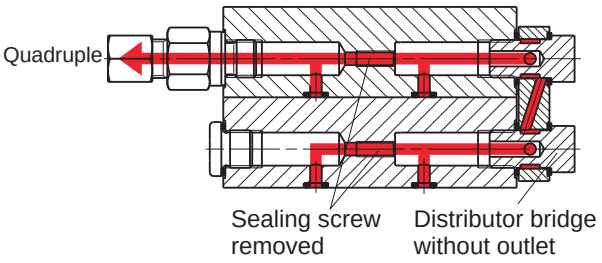
Three outlets combined at two different distributor disks

If three outlets shall be combined, the sealing screw has to be removed from one of the concerned basic elements. The outlet fittings of the adjacent distributor disk are replaced on one side by a distributor bridge. The outlet opposite to the distributor bridge at the basic element, of which the sealing screw has been removed, now is the outlet for the metering volumes of all connected outlets.



Four outlets combined at two different distributor disks

If four outlets shall be combined, the sealing screws have to be removed from both basic elements concerned. The outlet fittings of both distributor disks which have to be combined are replaced on one side by a distributor bridge without outlet. One of the outlets opposite to the distributor bridge has to be locked with a screw plug. The other outlet now is also the outlet for the combined metering quantities of all outlets of the concerned distributor disks.



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Elements with proximity switch

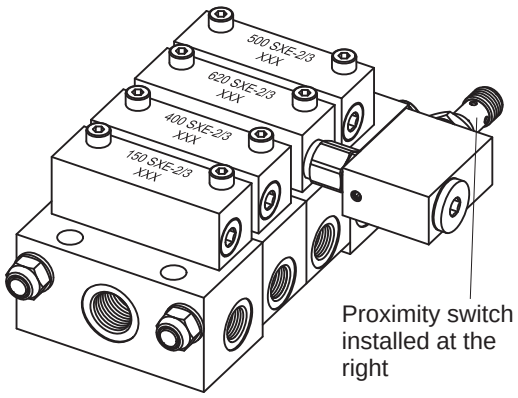
For monitoring the system or for the use of cycle controls for counting the piston strokes, proximity switches can be attached to the progressive distributors SXE-3.

Proximity switches can be delivered premounted to metering elements 400 SXE-2/3 to 760 SXE-2/3. The installation position of the proximity switch is on the right side as standard. Installation on the left side has to be indicated separately.

Metering elements with proximity switch have to be ordered separately, a later installation of a proximity switch to an existing metering element is not possible.

A proximity switch only can be retrofitted to a progressive distributor, when the concerned metering element is replaced.

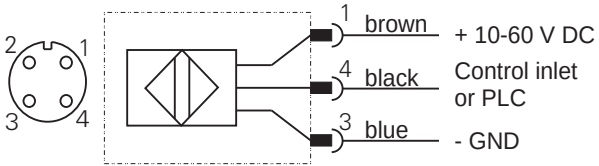
The proximity switch is delivered without a cable; it has to be ordered separately (see “Accessory progressive distributors”).



Technical data of the proximity switch:

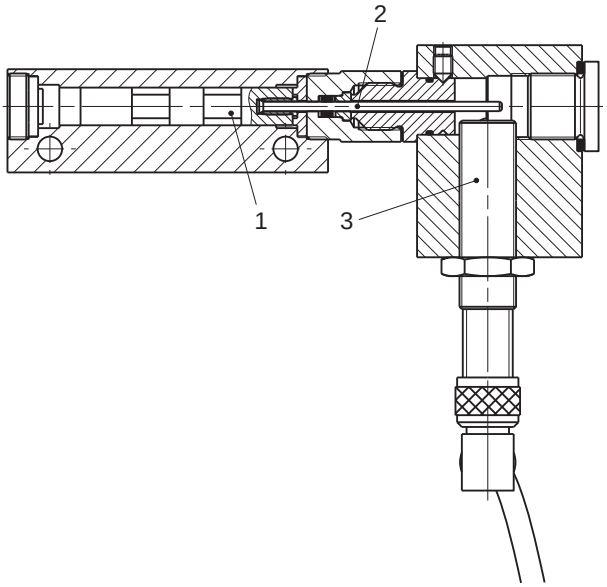
Connection:	M12x1 pluggable
Connecting method :	PNP NO contact
Load capacity:	200 mA
Possible voltage:	10-60 V DC
Per. ambient temperature:	-40 °C to 85 °C
Function indicator:	LED yellow
Housing material:	stainless steel
Protection class:	IP 67 / IP 69

Wiring diagram:



Functional description:

A pin (2) is fixed at the piston (1) of the metering element. The pin approaches the proximity switch (3) with every piston stroke and actuates a signal. The signal can be processed differently.



Installation dimensions:

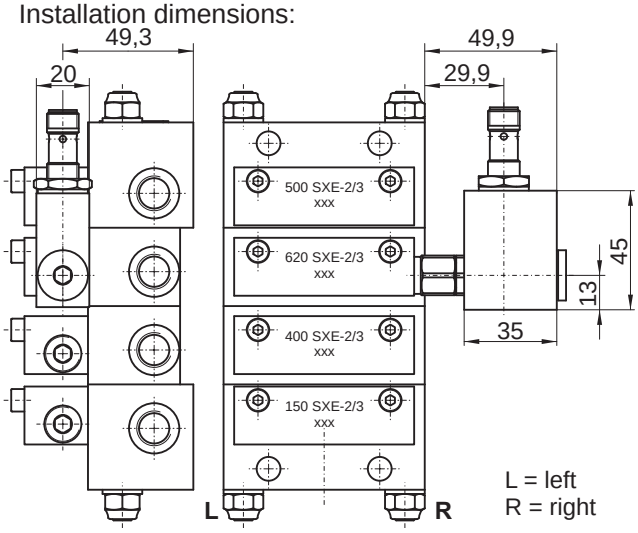


Tabelle Order-no. für Dosierelement mit Näherungsschalter M12x1:

Metering element with NS M12x1	Pos.	Order-no.
400 SXE-2/3 NS	right	40039851N1
	left	40039851N2
500 SXE-2/3 NS	right	40039861N1
	left	40039861N2
620 SXE-2/3 NS	right	40039871N1
	left	40039871N2
760 SXE-2/3 NS	right	40039881N1
	left	40039881N2

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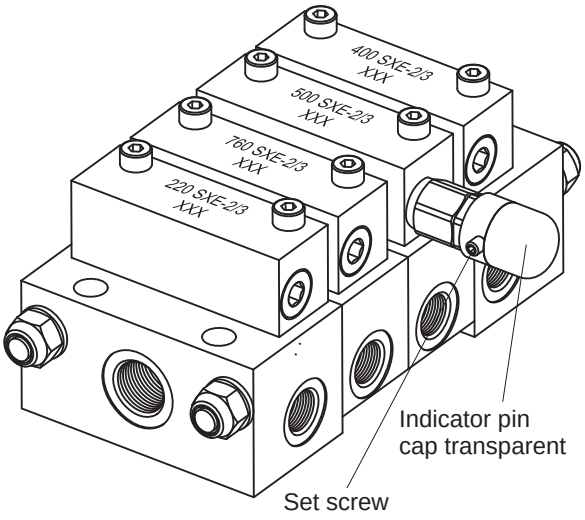
Elements with indicator pin

Instead of the proximity switch, an indicator pin can be mounted at the progressive distributors of the type SXE-3. However, it can only be installed at the metering elements 400 SXE-2/3 to 760 SXE-2/3, on the right side as a standard. A later installation is not possible, the indicator pin has to be considered when the order is placed.



Functional description:

A pin (2) is fixed at the piston (1) of the metering element. This pin appears in the transparent cap (3) with every piston stroke.

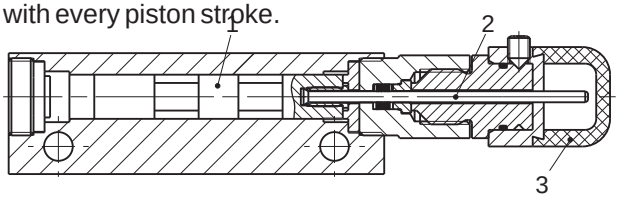


Table of order-no. for metering element with control pin indication with cap:

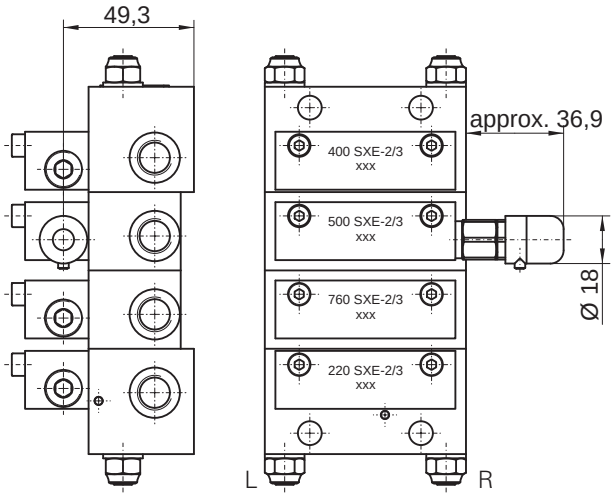
Metering element w. indicator pin	Pos.	Order-no.
400 SXE-2 HS	right	40039851H1
	left	40039851H2
500 SXE-2 HS	right	40039861H1
	left	40039861H2
620 SXE-2 HS	right	40039871H1
	left	40039871H2
760 SXE-2 HS	right	40039881H1
	left	40039881H2

** Please indicate the indicator pin position: right (standard) or left*

The transparent cap (pin cover) of the indicator pin can be ordered separately.

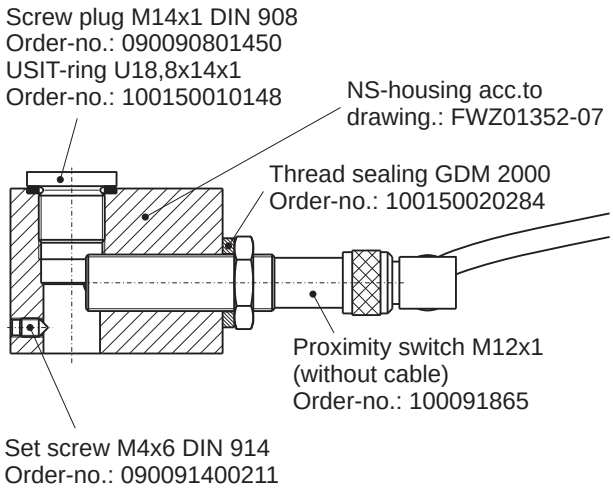
Order-no.: 4003000S003

Installation dimensions:



It is possible to attach the proximity switch to metering elements with indicator pin later.

Order-no. total: 4003000N002



The proximity switch is preadjusted!

For a later installation of a proximity switch, the setscrew has to be unscrewed and cap of the indicator pin has to be pulled off. Then the proximity switch can be put on and the setscrew can be screwed in again.

04-2-20-11 state: 05.10GB

Subject to alterations!

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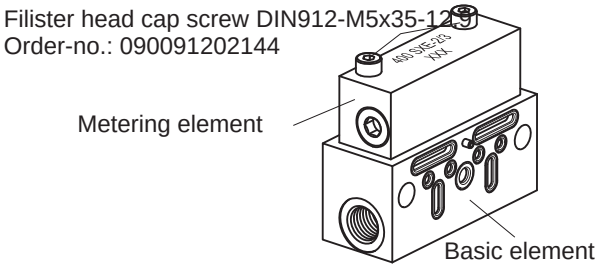
Exchange of a metering element

The metering volume of an existing distributor can be modified by exchanging a metering element.

Description:

- loosen two fillister head cap screws
- remove the existing metering, resp. dummy element
- put a new metering, resp. dummy element onto the basic element
- screw the fillister head cap screw in again (7,5 Nm).

SXE-3 distributor disk:



The disks of the distributor shall be pre-finished before being inserted. For that, a metering element is screwed with a basic element, as described above. After that, the new disks can be installed in the existing distributor.

Extension or shortening of distributors

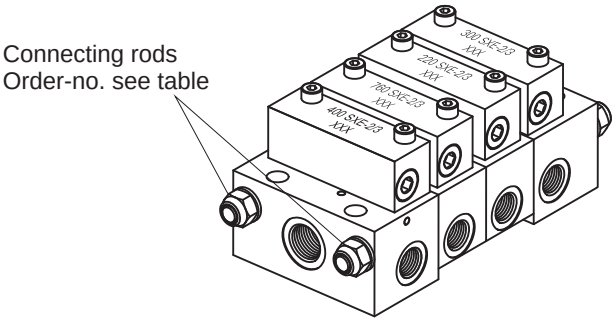
Progressive distributors SXE-3 can any time be adapted to the application conditions because of their modular design.

If new lubrication points should be added or if some become unnecessary, the distributor can be extended or shortened by the installation or removal of distributor disks and with a dummy element, distributor outlets can be closed.

Description:

- remove the nuts at both ends of the connecting rods and take the connecting rods out
- separate the distributor at the desired point
- add new distributor disks or remove the unnecessary ones
- screw the distributor together with the corresponding connecting rods, nuts and disks (see table)

SXE-3 distributor 4/6:



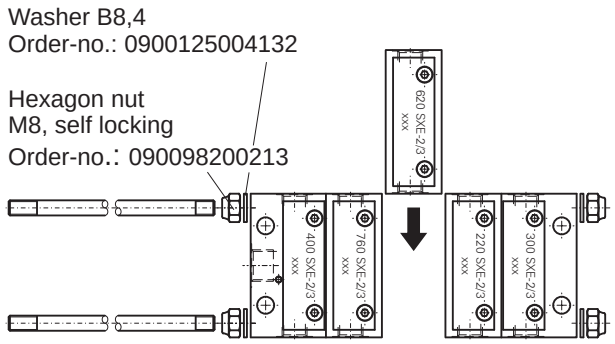


Table of connecting rods (1 piece):

Distributor	Conn. rod	Order-no.
SXE-3 3/6	M8 x 133	0802000676
SXE-3 4/8	M8 x 163	0802000402
SXE-3 5/10	M8 x 192	0802000677
SXE-3 6/12	M8 x 221	0802000678
SXE-3 7/14	M8 x 251	0802000679
SXE-3 8/16	M8 x 280	0802000407
SXE-3 9/18	M8 x 310	0802000680
SXE-3 10/20	M8 x 340	0802000681

If one of the O-rings, which are used for sealing the distributor between the individual elements, is damaged and does not seal anymore, the O-rings for basic elements, respectively metering elements, can be re-ordered in sets.

Caution: **When doing these works, please pay attention to utmost cleanness.**

Note: A SXE-3 distributor always has to consist of at least 3 metering elements and 10 as a maximum.

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Order-key

Special accessory

A solenoid valve can be attached as special accessory to SXE-3 distributors.

Accesso.	Designation
00	without special accessories
MV	Solenoid valve GR 2-1-N24 with initial element

Distributor inlet

The SXE-3 distributor can be delivered with or without fittings. When the fittings shall be delivered already installed into the distributor, they have to be marked with the fitting type, the pipe diameter and the series:

Inlet	Designation
G3/8	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10, 12 or 15, series L
GE08L	
GE10L	
GE12L	
GE15L	

The fittings can also be ordered separately (see “Accessories progressive distributor” or “Fittings and accessories”).

If no details concerning the fittings are indicated, a straight fitting for pipe Ø 8 according to standard is delivered.

Distributor outlet

The fitting type at the distributor outlets has to be indicated together with diameter and the series L when the order is placed:

Outlets	Designation
G1/4	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10 or 12, series L
GE08L	
GE10L	
GE12L	
RGE06L	non-return valve pipe-Ø 6, 8, 10 or 12, series L
RGE08L	
RGE10L	
RGE12L	

Metering volume

The metering code numbers **100** to **760** (see table “Technical description”) of the metering elements have to be indicated on the one hand according to the position of the elements and on the other hand in the order in which the lubricant comes out of each side, always seen from distributor inlet, and have to be separated by a **slash** (/). For the distributor bridges, please make a **plus** (+) instead of the slash.

The dummy elements have to be marked with **000** when the position is indicated in the order key.

For combined outlets, the metering volume code numbers (see “Combination of outlets”) accumulate.

Screw plugs and outlets closed by distributor bridges are marked with a **line** (----). The sealing screw which has to be removed has to be provided with a **star** (*) in the drawing.

Proximity switch

Metering elements, to which a proximity switch shall be installed, have to be marked with **NS** (=proximity switch). Proximity switches can be installed on the right side (according to standard) or on the left side, when desired.

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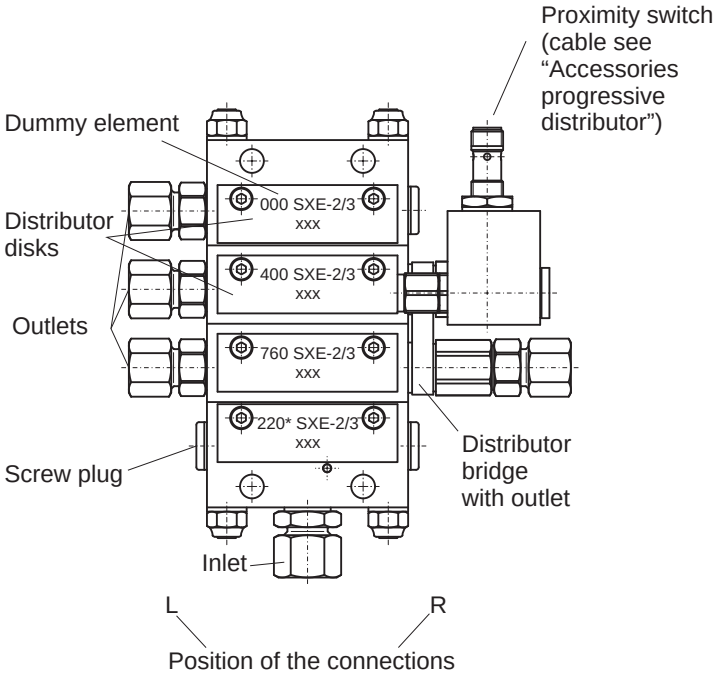
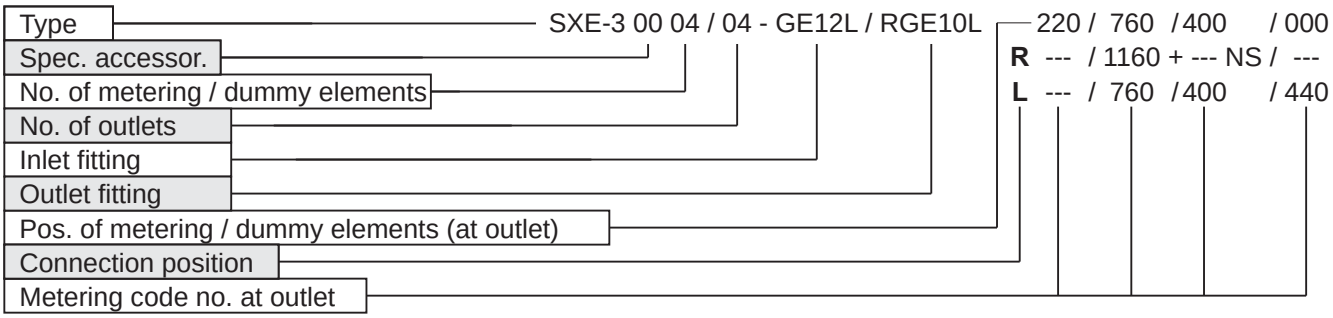
Order example:



* = Sealing screw removed!



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Technical description

The progressive distributors SXD are built in a variable disk construction. Therefore the distributor can be arranged optionally, depending on the number of lubrication points and their lubricant need. The progressive distributor SXD consists of an initial element, between two and nine middle elements and one end element. Metering elements, respectively dummy elements are fixed on the middle elements and the end element. On each middle- or end element's underside are two outlets.

Because of the variable system, the individual outlets' metering volume as well as the number of outlets can be changed.

The different metering volume per stroke is effected by different piston diameters of the metering elements.

For reducing the number of distributor outlets of an existing distributor SXD, a dummy element is available or a middle element with metering element can be removed. To enlarge a distributor, an additional middle element with metering element can be inserted.

A progressive distributor needs at least three metering elements (piston elements).

Technical data

Operating pressure - inlet:	max. 200 bar
Temperature range:	-20 °C to 80 °C
Delivery medium:	oil - fluid grease - grease up to NLGI-cl. 2
No. of revolutions:	max. 180 rev/min
Material:	steel, galvanized

Number of elements:

Min.	3 metering elements:	SXD 3/6
Max.	10 metering elements:	SXD 10/20

Progressive distributor SXD with three metering elements and six outlets:

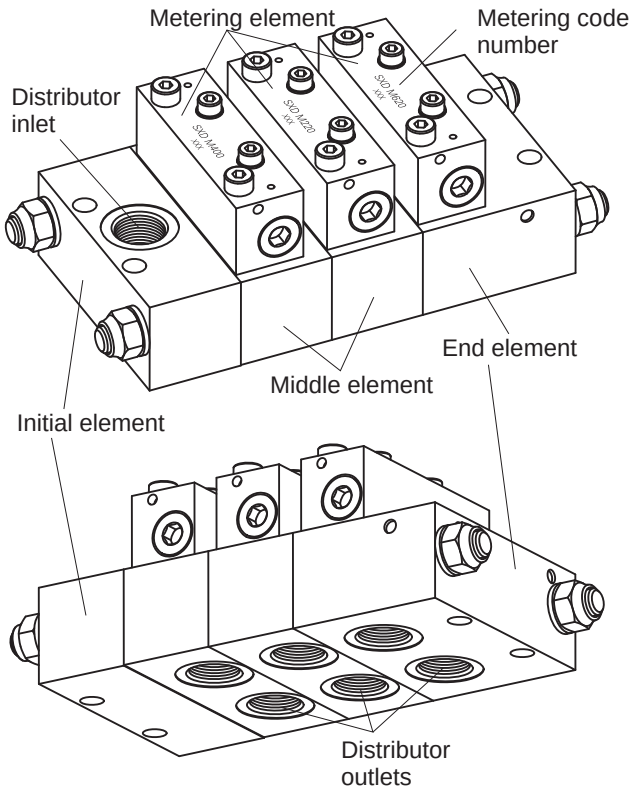

Tabelle Metering volume:

Designation metering element	Metering volume (mm³/stroke)		Code no.
	p. outlet	p. element	
SXD M000 (= dummy elem.)	-	-	000
SXD M100	100	200	100
SXD M150	150	300	150
SXD M220	220	440	220
SXD M300	300	600	300
SXD M400	400	800	400
SXD M500	500	1000	500
SXD M620	620	1240	620
SXD M760	760	1520	760

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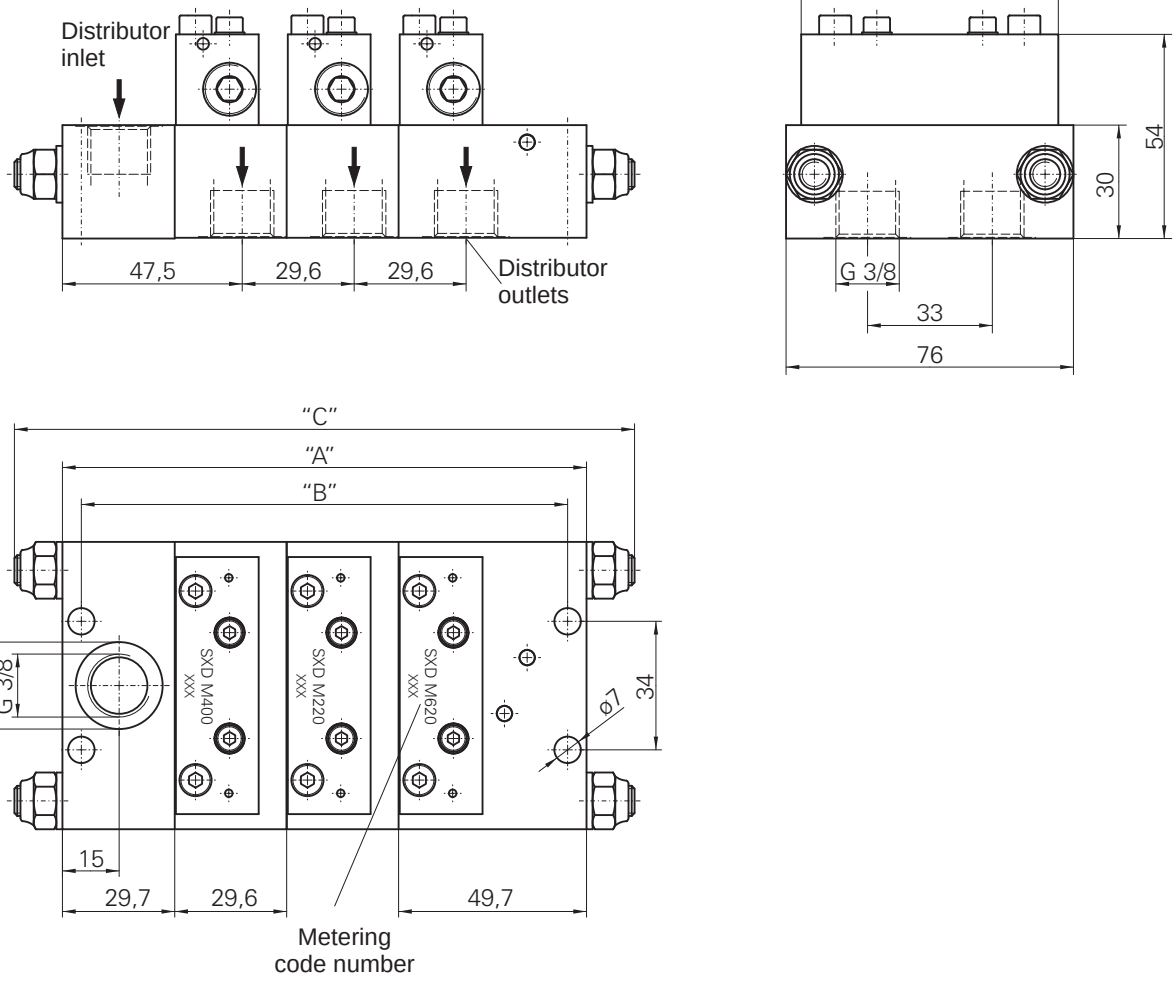
Dimension drawing:



No. of metering elements	3	4	5	6	7	8	9	10
No. of outlets (max.)	6	8	10	12	14	16	18	20
Dim. "A" (mm)	138,6	168,2	197,8	227,4	257	286,6	316,2	345,8
Dim. "B" (mm)	128,6	158,2	187,8	217,4	247	276,6	306,2	335,8
Dim. "C" (mm)	166	194	223	253	284	312	342	371

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Elements

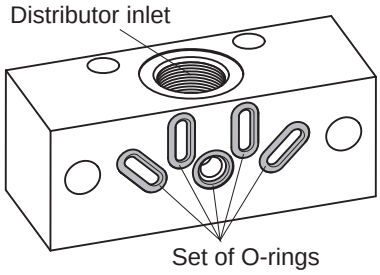
A SXD distributor consists of one initial element, two to nine middle elements and one end element. Metering elements (with piston) or dummy elements (without piston) are fixed on the middle elements and on the end element. Each metering or dummy element fits on each middle, respectively end element.

At least three piston elements are necessary for the function of a SXD distributor, i.e. each distributor has to contain at least three metering elements. Dummy elements do not contain a piston and therefore must not be counted.

As a standard, all elements are delivered without fittings at the distributor inlet and the distributor outlet and have a connection thread G 3/8.

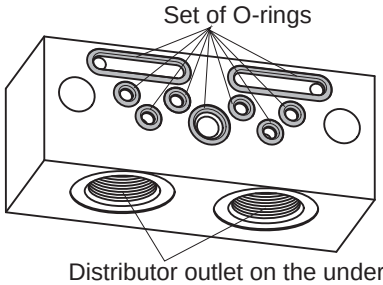
Initial element

Order-no.: 3998 970000



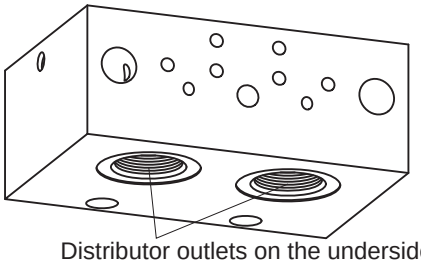
Middle element

Order-no.: 3998 980000



End element

Order-no.: 3998 990000



The sealing between the elements is effected by O-rings, which have to be installed into the initial, respectively into the middle element. On delivery, the O-rings are contained in each element. The necessary O-rings can be reordered in sets.

Set of O-rings for initial elements:
Order-no.: 3998 970D001
Set of O-rings for middle elements:
Order-no.: 3998 980D002

Note: Please pay attention to utmost cleanness when working at distributors.

All pipe fittings with a suitable connection thread and a suitable nominal pressure can be screwed into the initial element's distributor inlet as well as into the distributor outlets of the middle-, or end element. (see "Accessory progressive distributor", respectively "Fittings and accessories").

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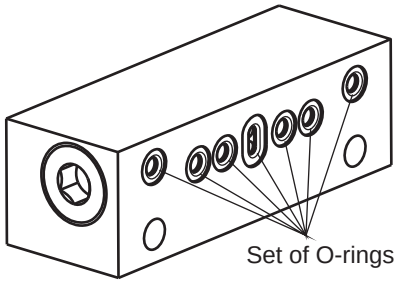
Metering elements

The SXD metering elements of the progressive distributor SXD exactly share out the lubricant. They contain pistons with different diameters for the individual metering volumes.



Metering elements are each fixed on the middle elements or end element with two socket head cap screws DIN 912-M5x35 - 12.9 with 7,5 Nm torque.

Head cap screw DIN 912 - M5x35 - 12.9,
Order-no.: 090091202144

The sealing between the metering element and the middle element or the end element is effected by O-rings.

The necessary O-rings can also be reordered in sets.
Set of O-rings for metering element (or dummy element)
Order-no.: 4003000D006

Metering elements can be delivered with eight different metering volumes, i.e. with eight different piston diameters.

Metering element	Order-no.
SXD M100	3998981000
SXD M150	3998982000
SXD M220	3998983000
SXD M300	3998984000
SXD M400	3998985000
SXD M500	3998986000
SXD M620	3998987000
SXD M760	3998988000

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Dummy elements

For reducing the number of outlets of an existing distributor, for unnecessary lube points or for providing outlets for lubrication points possibly to be attached, two outlets of an element can be locked and a dummy element can be installed instead of the metering element.

A dummy element contains no piston and therefore no lubricant is metered.

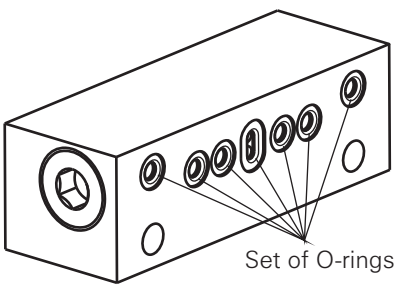
When a distributor is provided with a dummy element, the outlets of the previous element, seen from the distributor inlet, have to be closed. The lubricant which otherwise would come out of the locked outlets of the element, then comes out of the outlets of the element under the dummy element.

When a dummy element is installed, it has to consist of at least three metering elements, as at least three pistons are necessary for the distributor's function.

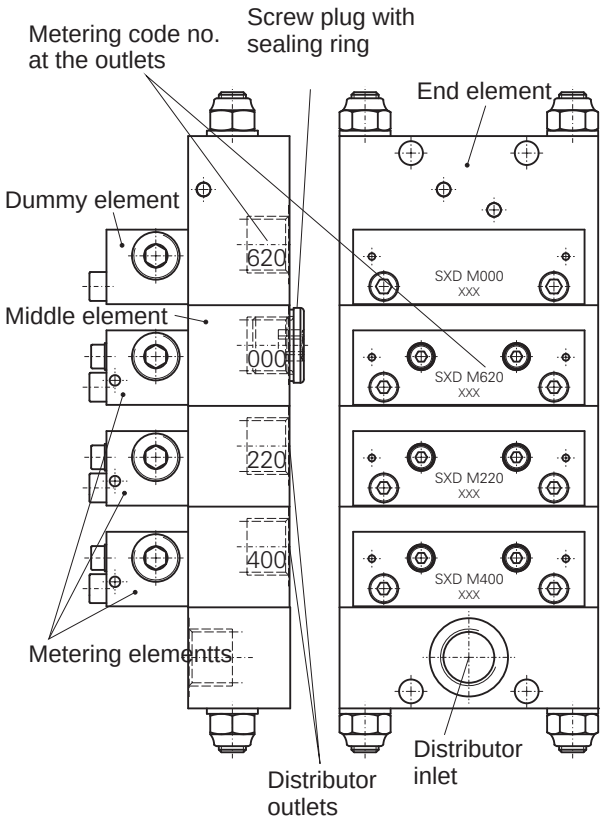
The sealing is effected by O-rings.
Set of O-rings for dummy element:
Order-no.: 4003000D006
The dummy elements are fixed with two socket head cap screws DIN 912-M5x35 - 12.9 with 7,5 Nm torque on the middle-, respectively the end element.
Head cap screw DIN 912 - M5x35 - 12.9:
Order-no.: 090091202144

Note: Please pay attention to utmost cleanness when working at distributors.

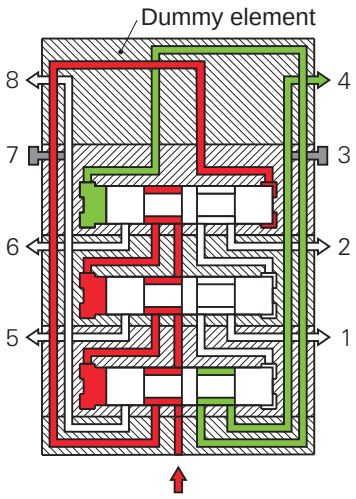
Dummy element **SXD M000** (w. set of O-rings)
Order-no.: 399898B001



Example: Dummy element installed at the end element



The outlets (3 and 7) of the previous middle element are locked and the lubricant volume which otherwise would come out of those outlets, is directed to the outlets (4 and 8) of the end element.
Functional scheme:



= pressure ducts
= following metering stroke

Subject to alterations!

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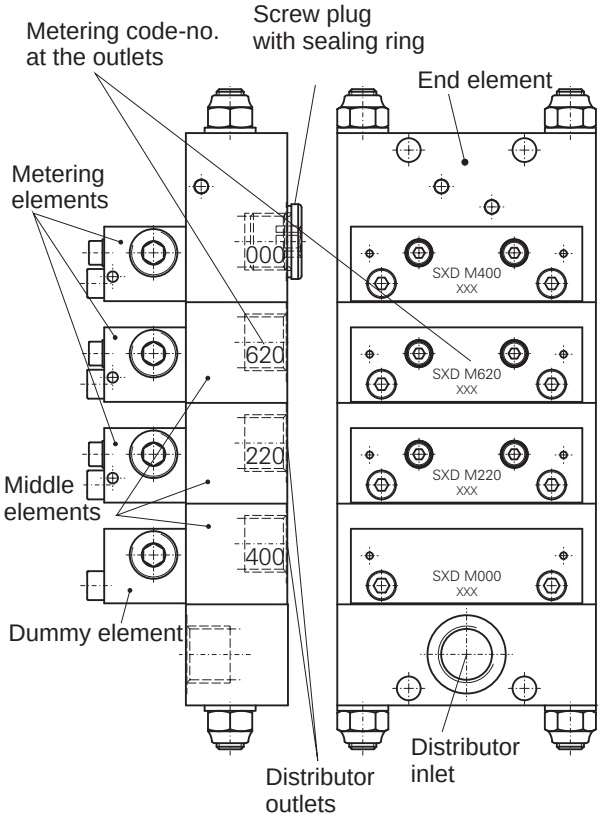
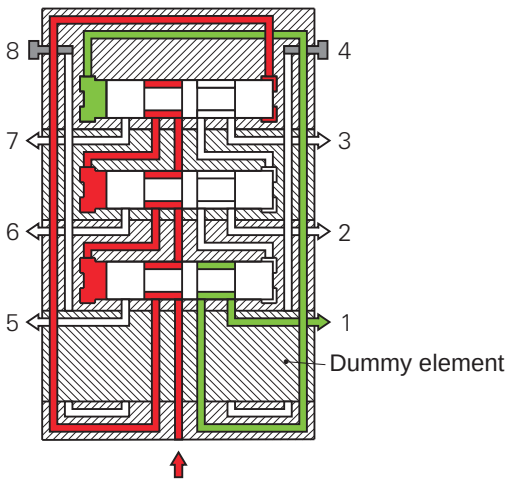
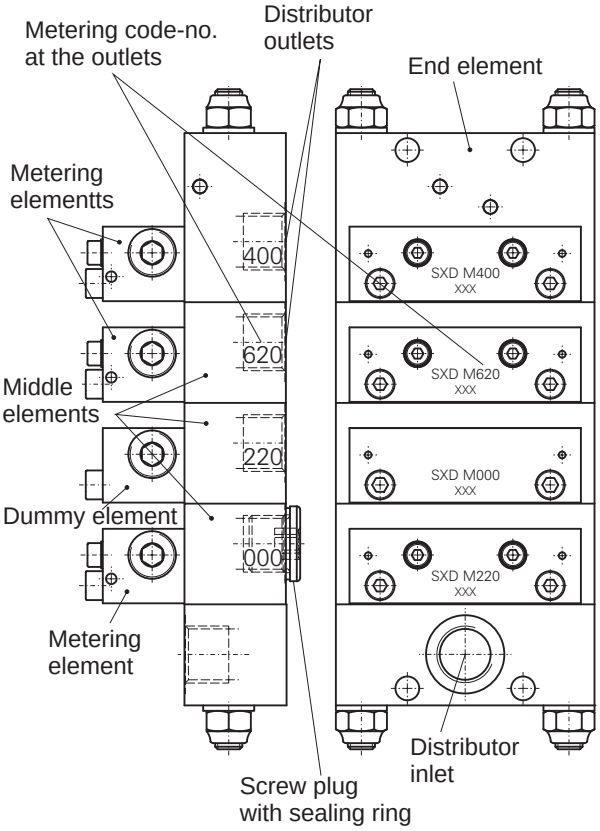
Example: Dummy element installed at the first middle element



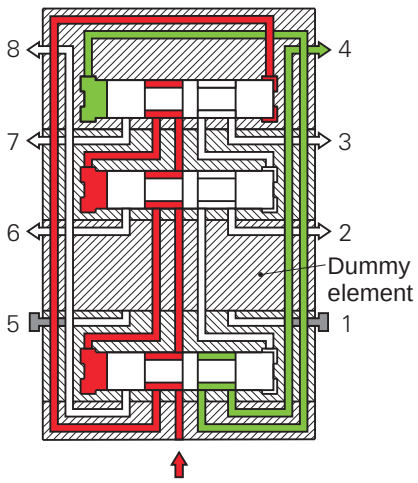
The outlets (4 and 8) of the end element are closed and the lubricant volume, which otherwise would come out of the outlets, is directed to the outlets (1 and 5) of the first middle element.
Functional scheme:



Example: Dummy elements installed between two middle elements



The outlets (1 and 5) of the first middle element are locked and the lubricant volume, which otherwise would come out of the outlets, is directed to the outlets (2 and 6) of the end element.
Functional scheme:



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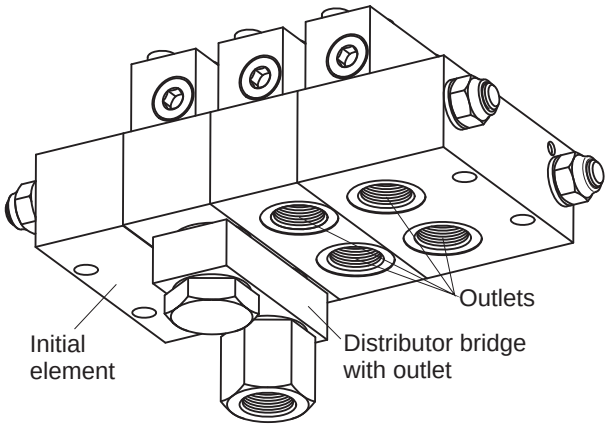
Combination of two outlets at one element

For lubrication points with a higher need of lubricant, it could be necessary to combine two outlets at the progressive distributor.

To this effect, two outlets of one middle element or end element are connected with a distributor bridge with outlet.

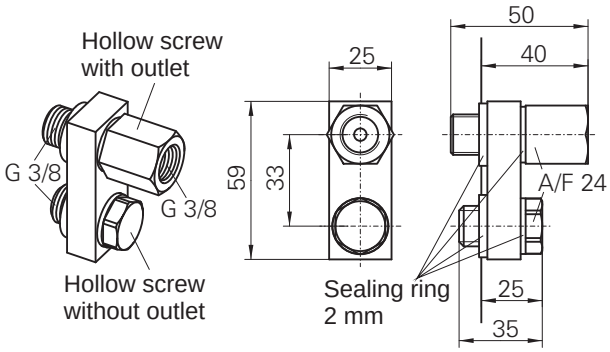
Both outlets' metering volume then comes out of the outlet of the distributor bridge and is calculated of the metering volume code number of the combined outlets.



Three different distributor bridges are available:

Distributor bridge with outlet without non-return valve

Order-no., total 4005 9800 30101



Distributor bridge with outlet and a non-return valve (in the hollow screw without outlet)

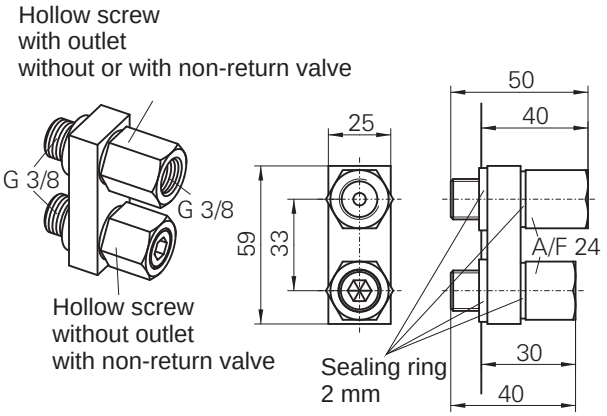
Order-no., total 4005 9800 40101

(see figure below)

Distributor bridge with outlet and with non-return valve in both hollow screws

Order-no., total 4005 9800 50101

(see figure below)



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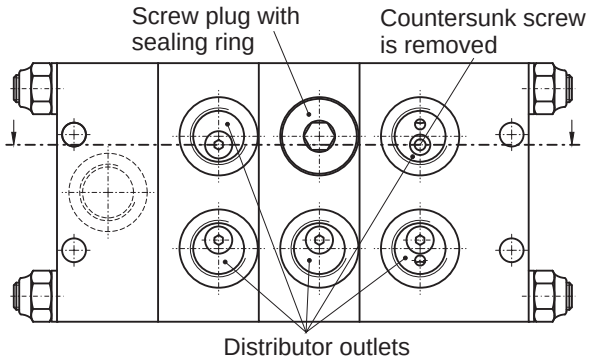
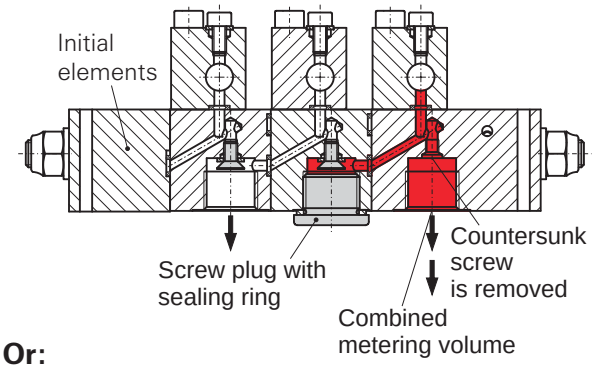
Combination of outlets at several elements

Should the total metering volume of the combined outlets be insufficient, for especially large bearing points or for main distributors e.g., there is the possibility to combine the outlets of several neighboring elements.

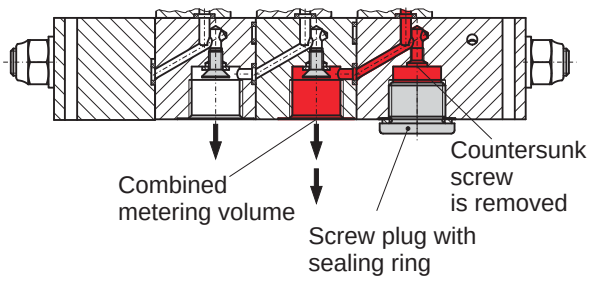
The outlets of the progressive distributor SXD are separated lengthwise with a countersunk screw. When the countersunk screw is removed, one outlet can be closed and the medium of both outlets is delivered out of one outlet.

Two metering volumes combined lengthwise:



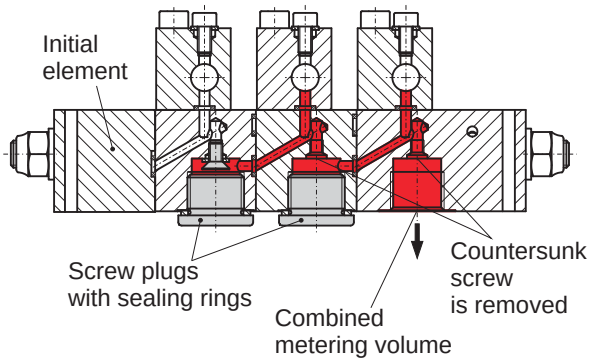


Or:



The combined metering volume can be extracted from the outlet of which the countersunk screw has been removed or from the previous outlet.

Three metering volumes combined lengthwise:



The combination of outlets at one element by a distributor bridge and at several elements by removing the countersunk screws can be combined.

Screw plug and sealing ring for locking outlets

Order-no.:
Screw plug G3/8
090090800713
Sealing ring DIN 7603 - A17x21x1,5
090760301711

Note: Outlets must not be locked without directing the lubricant to another outlet, as otherwise the distributor blocks!

Separating outlets

To separate combined outlets at progressive distributors again, the countersunk screw with sealing ring has to be screwed in again and instead of the screw plug, an outlet fitting, or a distributor bridge has to be connected.

Order-no.:
Countersunk screw DIN 7991 - M4x8 - 8.8
Order-no.: 090799100211
Sealing ring DIN 7603 - A4x8x1
Order-no.: 090760301211

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Elements with proximity switches

For monitoring the system, for the use of cycle controls or for counting the piston strokes, proximity switches can be attached to SXD distributors.

Three different types of proximity switches are available (see table). Without further indications, the proximity switch M12x1 is installed on the right side of the last element, as a standard. An installation on the left side or of another proximity switch has to be indicated separately.

Metering elements with proximity switches have to be indicated when the order is placed, as a later installation to an existing distributor element is not possible.

Retrofitting a proximity switch to an existing progressive distributor SXD is only possible by replacing a metering element.

The proximity switch is delivered without cable, this has to be ordered separately (see “Accessory progressive distributor”).

Terminal diagram:

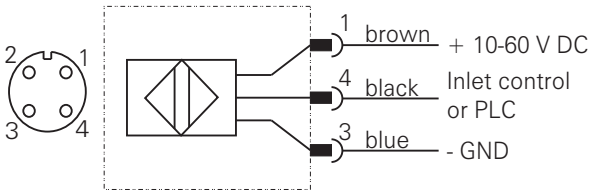
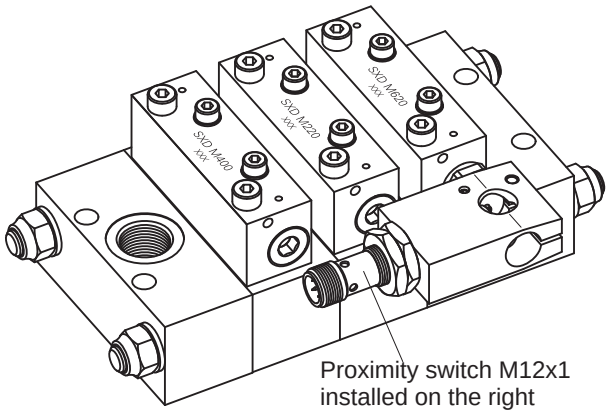


Table proximity switch:

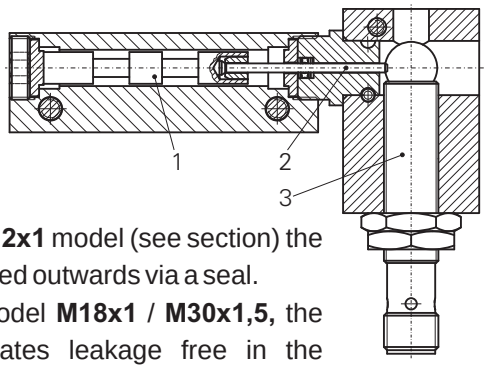
Size	M12x1 (standard)	M18x1 (special version)	M30x1,5 (special version)
Connection	plugable M12x1		
Switch type	PNP NO		
Current load	200 mA		
Voltage	10 to 60 V DC		
perm. ambient temperature	-40 °C to 85 °C		
Function indication	LED yellow		
Material	stainless steel		
Protection class	IP 67 / IP 69K		
Metering elements	SXD M400 to M760	SXD M300 to M760	
Spare part order-no.	100091865	1000912586	1000912587

Progressive distributor SXD with attached proximity switch:



Functional description:

A pin (2) is fixed at the piston of the metering element (1). This pin approaches the proximity switch (3) with each piston stroke and initiates a signal. This signal can be, depending on the type of control or the individual case, evaluated differently.



At the **M12x1** model (see section) the pin (2) is led outwards via a seal.

At the model **M18x1** / **M30x1,5,** the pin operates leakage free in the medium.

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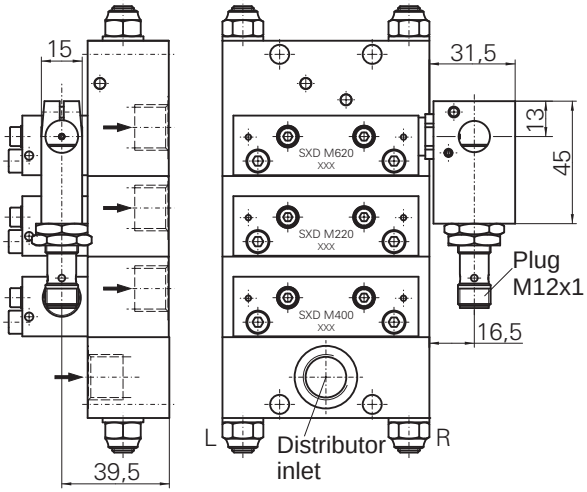
Installation dimensions for the proximity switch M12x1:

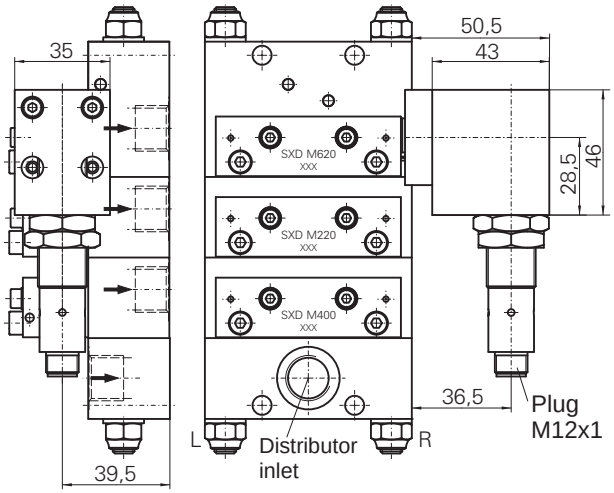


L = left
R = right

Table of order-no. for metering element with proximity switch M12x1 (standard):

Metering element with NS M12x1	Pos.	Order-no.
SXD M400 N12/24 R	right	3998985N12/24R
SXD M400 N12/24 L	left	3998985N12/24L
SXD M500 N12/24 R	right	3998986N12/24R
SXD M500 N12/24 L	left	3998986N12/24L
SXD M620 N12/24 R	right	3998987N12/24R
SXD M620 N12/24 L	left	3998987N12/24L
SXD M760 N12/24 R	right	3998988N12/24R
SXD M760 N12/24 L	left	3998988N12/24L

Installation dimensions for the proximity switch M18x1:

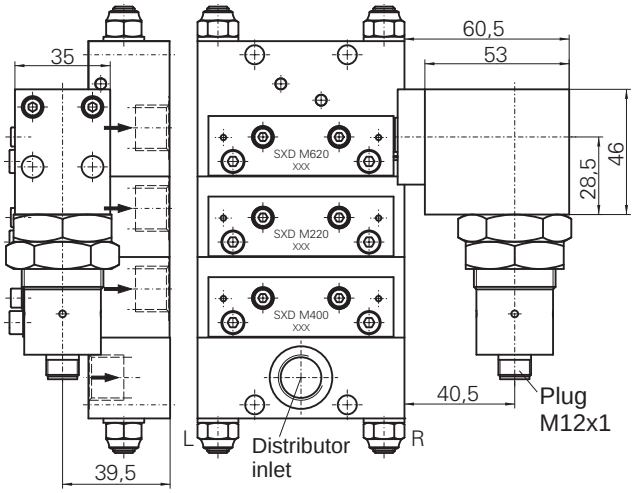


L = left
R = right

Table of order-no. for metering element with proximity switch M18x1 (special model):

Metering element with NS M18x1	Pos.	Order-no.
SXD M300 N18/24 R	right	3998984N18/24R
SXD M300 N18/24 L	left	3998984N18/24L
SXD M400 N18/24 R	right	3998985N18/24R
SXD M400 N18/24 L	left	3998985N18/24L
SXD M500 N18/24 R	right	3998986N18/24R
SXD M500 N18/24 L	left	3998986N18/24L
SXD M620 N18/24 R	right	3998987N18/24R
SXD M620 N18/24 L	left	3998987N18/24L
SXD M760 N18/24 R	right	3998988N18/24R
SXD M760 N18/24 L	left	3998988N18/24L

Installation dimensions for the proximity switch M30x1,5:



L = left
R = right

Table of order-no. for metering element with proximity switch M30x1,5 (special model):

Metering element with NS M30x1,5	Pos.	Order-no.
SXD M300 N30/24 R	right	3998984N30/24R
SXD M300 N30/24 L	left	3998984N30/24L
SXD M400 N30/24 R	right	3998985N30/24R
SXD M400 N30/24 L	left	3998985N30/24L
SXD M500 N30/24 R	right	3998986N30/24R
SXD M500 N30/24 L	left	3998986N30/24L
SXD M620 N30/24 R	right	3998987N30/24R
SXD M620 N30/24 L	left	3998987N30/24L
SXD M760 N30/24 R	right	3998988N30/24R
SXD M760 N30/24 L	left	3998988N30/24L

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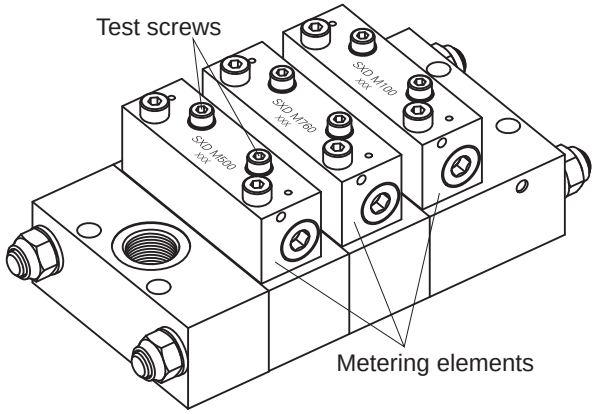
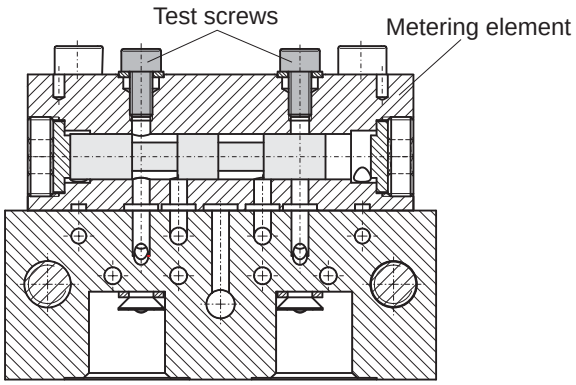
Blockade test

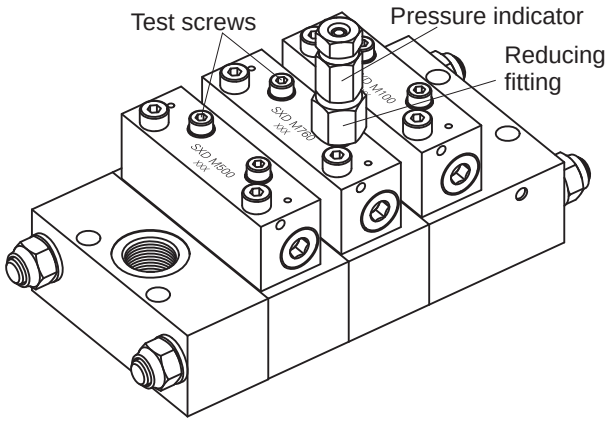


When the progressive distributor stops because of a locked lubrication line, the blocked point can easily be found by opening the test screws in the metering elements. The lubricant can come out of the screw, which is in the metering element above the blocked outlet and the progressive distributor operates again.



Pressure indicator

Pressure indicators can also be installed instead of test screws.



The pressure indicator serves for locating locked lubrication lines or blocked progressive distributors.

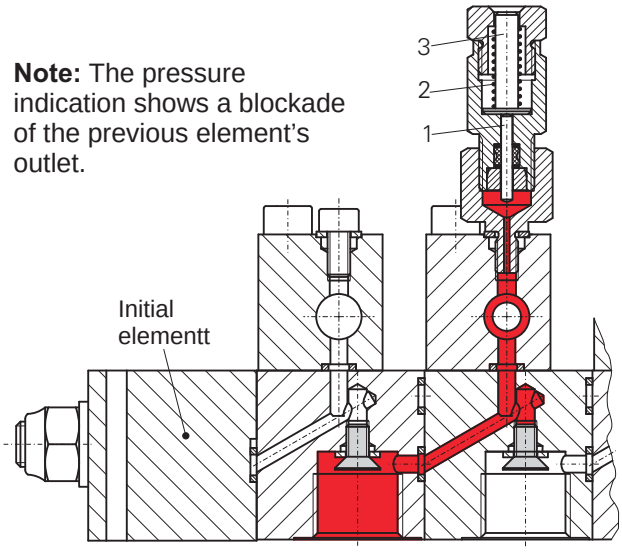
Installation:

- Remove the test screw and the sealing ring.
- Lay in the O-ring and screw in the reducing fitting.
- Screw in the pressure indicator into the reducing fitting.

Functional description:

When the pressure increases, the pin (1) is pushed out against the spring force (2) and the indicator pin (3) becomes visible. When the pressure is reduced, the spring (2) pushes the indicator pin (3) back again.

Note: The pressure indication shows a blockade of the previous element's outlet.



See order-numbers and installation dimensions under "Accessory progressive distributor".

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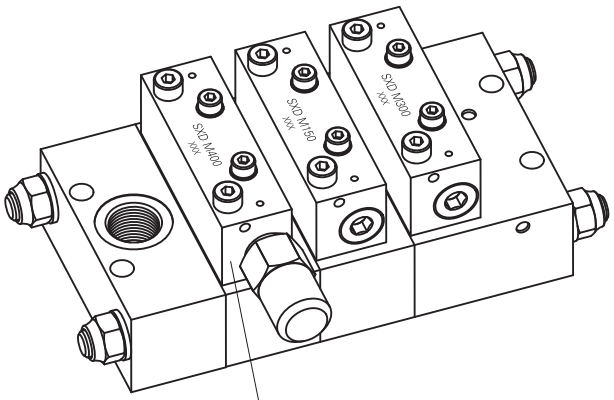
Elements with visual stroke control

Instead of the proximity switch, a visual stroke control can be attached at SXD distributors.

The visual stroke control can be optionally attached to metering elements SXD M300 to SXD M760, however on the right is standard.

The visual stroke control has to be considered when the order is placed, a later attachment to an existing metering element is not possible.



Functional description:

A pin (2) is fixed at the piston of the metering element (1). This pin appears with each piston stroke in the transparent cap (3).

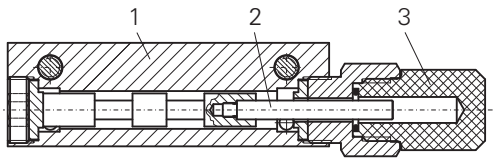
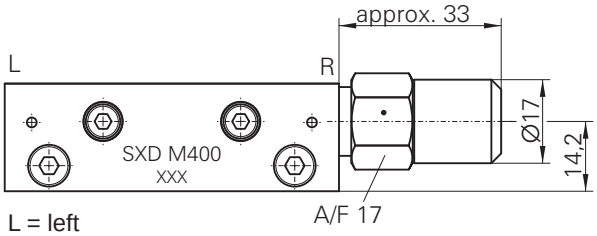


Table of order-no. for metering element SXD with visual stroke control:

Metering elem. with visual stroke control	Pos.	Order-no.
SXD M300 H R	right	3998984H00R
SXD M300 H L	left	3998984H00L
SXD M400 H R	right	3998985H00R
SXD M400 H L	left	3998985H00L
SXD M500 H R	right	3998986H00R
SXD M500 H L	left	3998986H00L
SXD M620 H R	right	3998987H00R
SXD M620 H L	left	3998987H00L
SXD M760 H R	right	3998988H00R
SXD M760 H L	left	3998988H00L

Installation dimensions:



L = left
R = right

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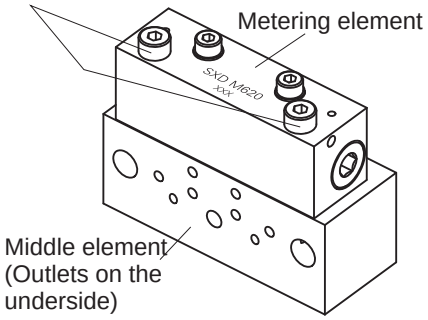
Exchanging a metering element

The metering volumes of an existing distributor can be changed by the exchange of a metering element.

Description:

- loosen two fillister head cap screws
- remove the existing metering- or dummy element
- place the new metering- or dummy element on the middle-, respectively end element
- Screw the fillister head cap screws in again (7,5 Nm)

Head cap screws DIN912-M5x35-12.9
Order-no.: 090091202144



A metering element or a dummy element should first be screwed up as described above, before they are placed in the distributor.

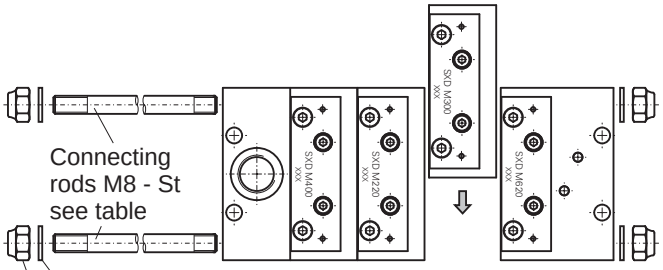
Extension or shortening of distributors

Progressive distributors SXD can any time be adapted to the application conditions because of their modular design.
If new lube points should be added or some become unnecessary, the distributor can be extended or shortened by the installation or the removal of distributor disks and with a dummy element, distributor outlets can be closed.

Description:

- Screw off the nuts of both ends of the connecting rods and take the connecting rods out
- Separate the distributor at the requested point
- Add the new distributor disks (metering element already screwed up with a middle element) or remove unnecessary ones
- Screw the distributor with the corresponding connecting rods (see table), the nuts and the disks together
-

SXD distributor 4/8:



Washer DIN 433 - B 8,4 - St vz.
Order-no.: 090043300312 (1 piece)

Hexagon nut, self locking
DIN 982 - M8- St vz.
Order-no.: 090098200212 (1 piece)

Table of connecting rods (1 piece):

Distributor	Conn. rod	Order-no.
SXD 3/6	M8 x 166	0802000552
SXD 4/8	M8 x 194	0802000701
SXD 5/10	M8 x 223	0802000555
SXD 6/12	M8 x 253	0802000702
SXD 7/14	M8 x 284	0802000703
SXD 8/16	M8 x 312	0802000704
SXD 9/18	M8 x 342	0802000705
SXD 10/20	M8 x 371	0802000706

When one of the O-rings, which are used for sealing the distributor between the individual elements, is damaged and does not seal any more, the O-rings for initial- or middle elements, respectively metering- or dummy elements can be reordered in sets (see “elements”, “metering elements” or “dummy elements”).

Note: **Pay attention to utmost cleanness when working at the distributors.**

Note: A SXD always has to consist of at least three metering elements and ten metering elements as a maximum.

04-2-30-13 state: 05.10GB

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Order key

Distributor inlet

The progressive distributor SXD can be delivered with or without fittings. Should the fittings be delivered already installed into the distributor, they have to be marked with the pipe diameter and the series L:

Inlet	Designation
G3/8	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10, 12 or 15, series L
GE08L	
GE10L	
GE12L	
GE15L	

The fittings can also be ordered separately (see “Accessories progressive distributor” and “Fittings and accessories”).

When no indication concerning the fittings is made, the delivery is without fittings as standard!

Distributor outlet

The type of fitting at the distributor outlets has to be indicated with the diameter and the series L, when the order is placed:

Outlets	Designation
G3/8	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10 or 12, series L
GE08L	
GE10L	
GE12L	
RGE06L	non-return valve, pipe-Ø 6, 8, 10 or 12, series L
RGE08L	
RGE10L	
RGE12L	

Metering volume

The metering code numbers **100** to **760** (see table “Technical description”) of the metering elements have to be indicated on the one hand according to the position of the metering elements and on the other hand in the order in which the lubricant comes out on each side, always seen from the distributor inlet, and have to be separated by a **slash** (/). Please indicate a **plus** (+) instead of the slash for distributor bridges.

The dummy elements have to be marked with **000** when the position is indicated in the order key.

The code numbers of combined outlets accumulate (see “Combination of outlets”).

Screw plugs and outlets which are closed by distributor bridges have to be marked with a **line** (---). Mark countersunk screws, which have to be removed, with a **star** (*) in the drawing.

Proximity switch

Three different types of proximity switches are available:

NS	Designation
N12/24	proximity switch M12x1 (standard)
N18/24	proximity switch M18x1
N30/24	proximity switch M30x1,5

For other proximity switches, the thread diameter of the proximity switch has to be indicated after the code letter **N** and the proximity switch’s voltage after the **slash** (/).

The installation position of the proximity switch has to be marked with **NS** on the left or on the right after the metering code number of the metering element, to which the proximity switch shall be attached.
R =right **L** = left

Without an indication concerning the installation position, the proximity switch is installed on the right side of the last element as standard.

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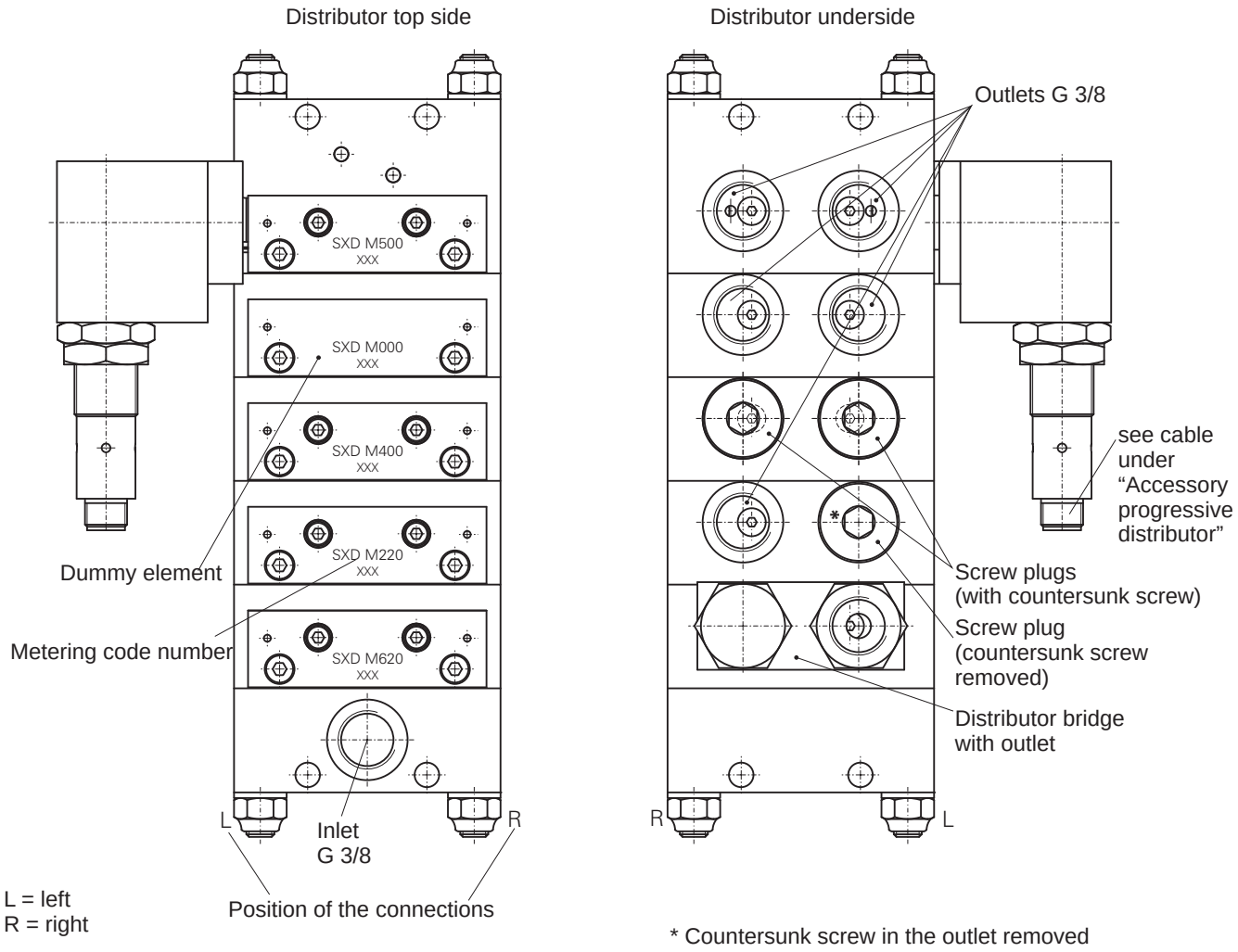
Order example



Type	SXD 05 / 06 - G3/8 / G3/8 N18/24	
No. of metering / dummy elements		620 / 220 / 400 / 000 / 500
No. of outlets		**R** --- / 220 / --- / 400 / 500
Inlet fitting		**L** 1460 + --- / --- / 400 / 500 NS
Outlet fitting		
Thread diameter of proximity switch		
Voltage		
Position of metering / dummy elem. (at outlet)		
Connection position		
Metering code-no. at outlet		

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Protection cabinet

For the use outside or for unfavorable ambient conditions, the SXD distributors can be mounted completely into a protection cabinet. This protects the distributor against dirt and corrosion.

In addition to the order number of the protection cabinet, the order number of the progressive distributor SXD (see “order key” of SXD distributor) has to be indicated, in which both components are delivered completely assembled.

The protection cabinet optionally can be equipped with a protection cover.

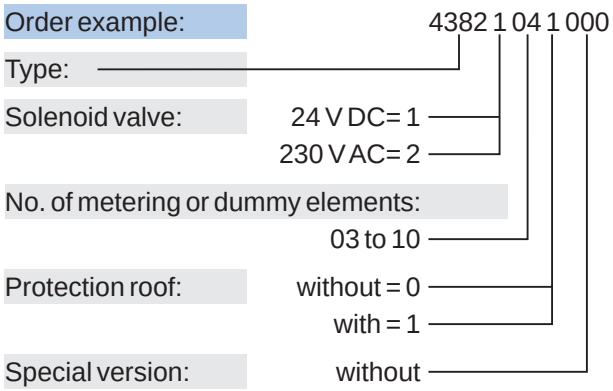
Technical data

Protection cabinet:	steel, painted RAL 7035 (V2A available)
Protection class:	IP 66
Voltage:	230 V AC or 24 V DC
Frequency:	50/60 Hz
Temperature range:	-20 °C to 60 °C

Drawing

see following page

Order-no. protection cabinet (without SXD)



Spare parts

Sealing between intermediate plate and the distribution cabinet (see drawing)
Order-no.: 080100128

Protection roof
Order-no.: 0800800710

Intermediate plate
Order-no.: see table

No. of metering or dummy elements	Order-no.
03	0800801520
04	0800801521
05	0800801522
06	0800801523
07	0800801524
08	0800801525
09	0800801526
10	0800801527

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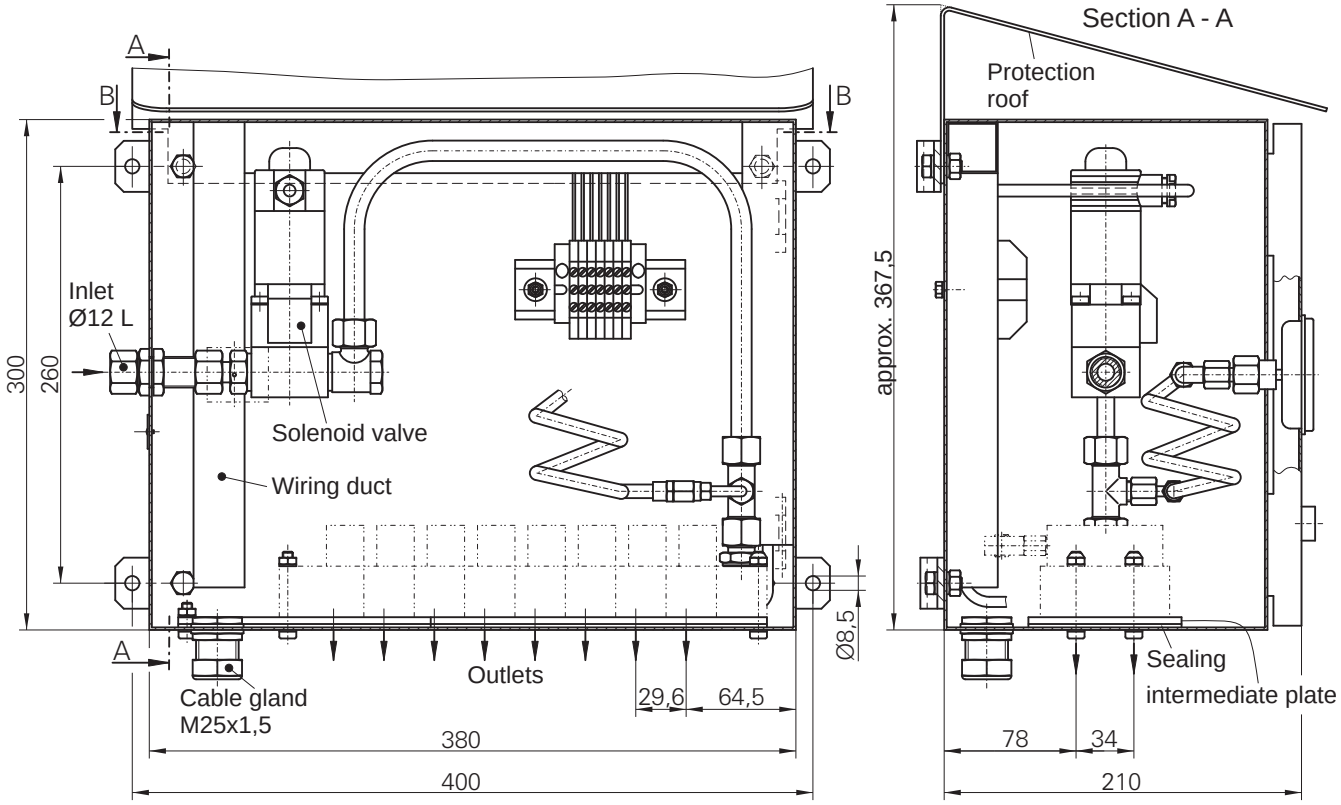
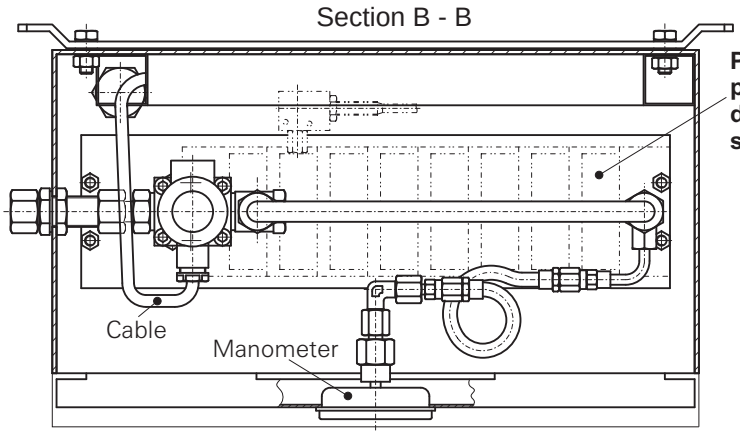
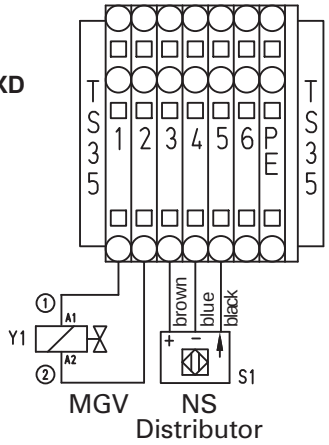
Drawing of the distributor cabinet





Please order progressive distributor SXD separately

Terminal diagram



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Technical description

The SX-4 distributors are built in a modular design. Therefore the distributor can easily be put together, depending on the number of lube points and their lubricant consumption.

The progressive distributor SX-4 consists of a connecting plate, an intermediate plate and metering- or dummy elements.

The varying metering volume per piston stroke is reached with different piston diameters of the metering elements.

The metering elements can be exchanged optionally.

For reducing the number of distributor outlets at the SX-4 distributor, dummy elements are available. For extending the distributor, a dummy element can be replaced by a metering element.

Please take care that the lubricant comes out of the outlet below the previous metering element.

At least three metering elements (piston elements) are required for the function of the distributor.

Technical data

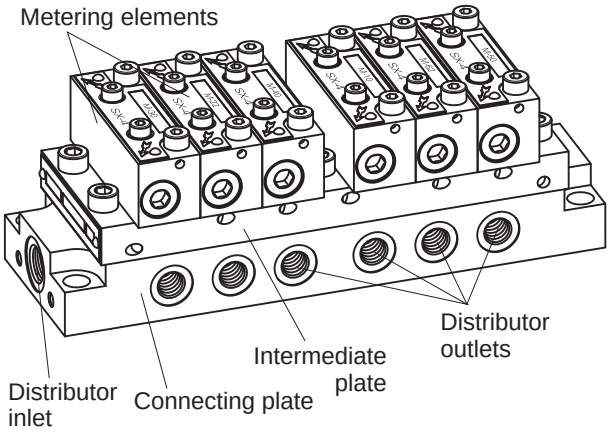
Operating pressure-inlet:	min. 3 bar
	max. 150 bar
Temperature range:	-20 °C to 80 °C
Lubricant:	oil - fluid grease - grease up to NLGI-cl. 2
No. of revolutions:	max. 180 rev/min
Material:	steel, galvanized
Connecting plate:	aluminum

Number of elements:

Min. 3 metering elements: SX-4 3/6

Max. 10 metering elements: SX-4 10/20

Progressive distributor SX-4 with six metering elements and twelve outlets:



Designation metering elements	Metering volume (mm³/stroke)		Code no.
	p. outlet	p. element	
SX-4 M00 (= dummy elem.)	-	-	00
SX-4 M10	100	200	10
SX-4 M15	150	300	15
SX-4 M22	220	440	22
SX-4 M30	300	600	30
SX-4 M40	400	800	40
SX-4 M50	500	1000	50
SX-4 M62	620	1240	62
SX-4 M76	760	1520	76

04-3-10-01 state: 05.10GB

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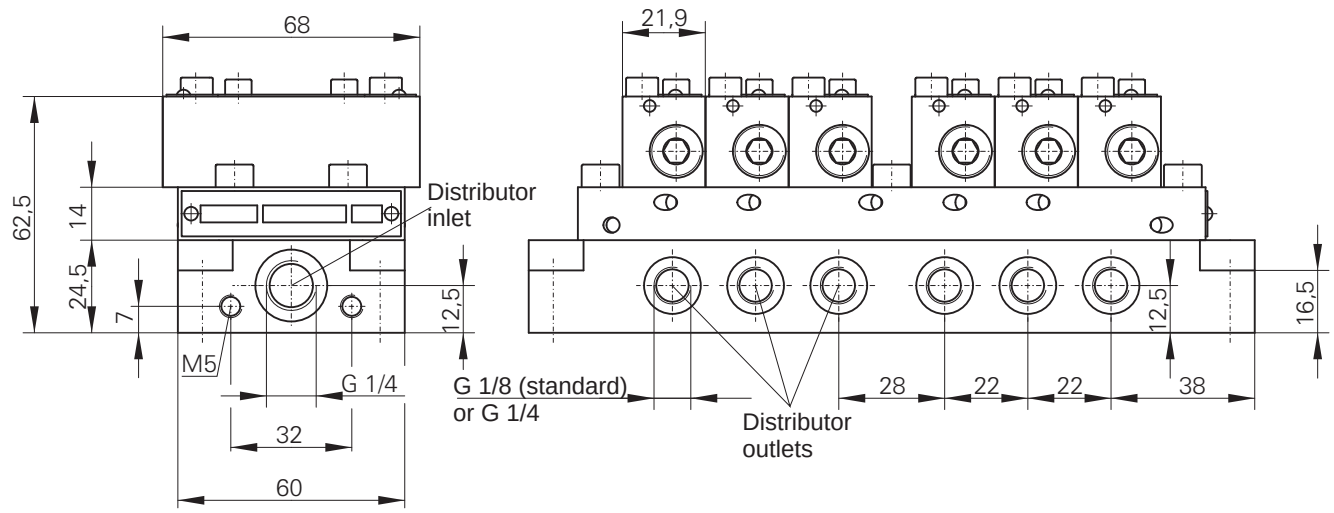
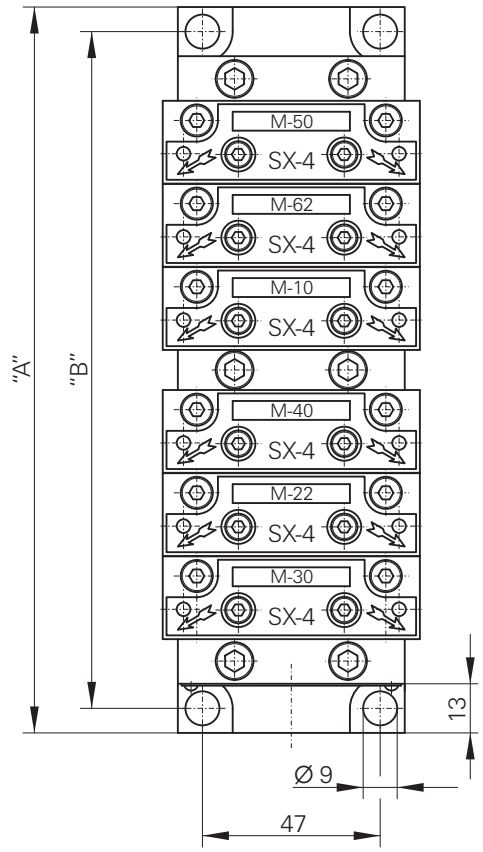
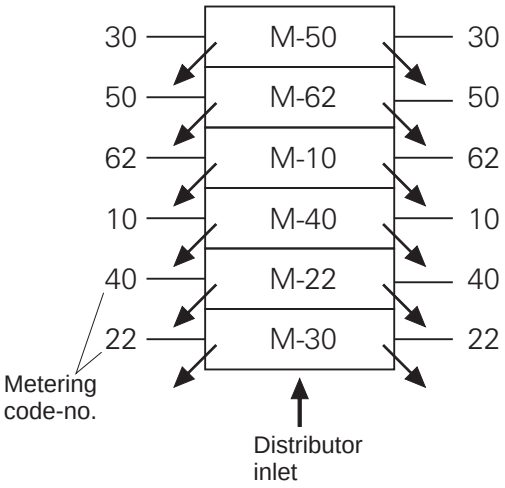
Dimension drawing:





The lubricant always comes out of the before lying outlet, in the direction of the distributor inlet.
See scheme:



No. of metering elements	3	4	5	6	7	8	9	10
No. of outlets (max.)	6	8	10	12	14	16	18	20
Dim. "A" (mm)	120	142	164	192	214	236	258	280
Dim. "B" (mm)	107	129	151	179	201	223	245	267

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Basic elements

The progressive distributors SX-4 always consist of connecting plate, intermediate plate and three to ten metering elements (with piston) or dummy elements (without piston).

For the faultless function of a progressive distributor SX-4, at least three piston elements are always necessary, i.e. each distributor has to contain at least three metering elements. Dummy elements contain no pistons and therefore cannot be counted.

Connecting plate

Connecting plates can be delivered with three to ten outlets on each side optionally with connection thread G 1/4 at the distributor inlet and G 1/8 or G 1/4 at all distributor outlets.

If there is no indication made concerning the connection thread at the distributor outlets, G1/8 is delivered as standard.

Connecting plates with six to ten outlets on each side are in the middle additionally screwed up with intermediate plates by two screws, therefore the distance of both outlets in this area is 28 mm, otherwise 22 mm.

Position of the additional fastening bores seen from

No. of metering elements	Pos. of additional fastening drills
6	between 3. and 4. outlets
7 and 8	between 4. and 5. outlets
9 and 10	between 5. and 6. outlets

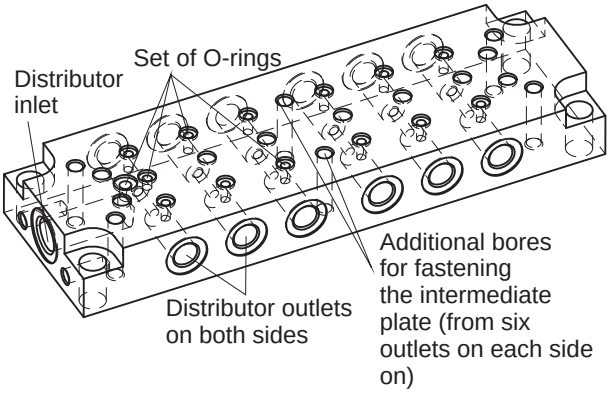

Tabelle Order-no. for connecting plate

No. of metering elements	Order-no. for outlets G 1/8	Order-no. for outlets G 1/4
3	40099603	400996031
4	40099604	400996041
5	40099605	400996051
6	40099606	400996061
7	40099607	400996071
8	40099608	400996081
9	40099609	400996091
10	40099610	400996101

Intermediate plate

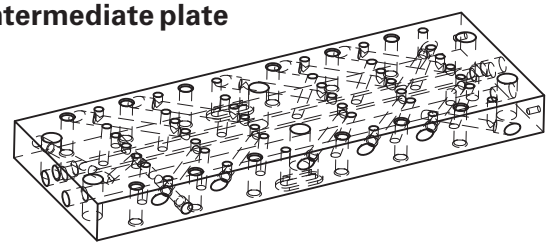

Tabelle Order-no. for intermediate plate:

No of metering elements	Order-no. of intermediate plate
3	40099703
4	40099704
5	40099705
6	40099706
7	40099707
8	40099708
9	40099709
10	40099710

The sealing between the connecting plate and the intermediate plate is realized with O-rings, which are already laid into the connecting plate when being delivered.

Order-no. 400996D03 to 400996D10
(depending on the number of metering elements)

Note: **When working at distributors, please pay attention to utmost cleanness.**

All pipe fittings with a suitable connection thread and suitable nominal pressure can be screwed into the connecting plate's distributor inlet as well as into the distributor outlets (see "Accessory progressive distributors", or "Fittings and accessories").

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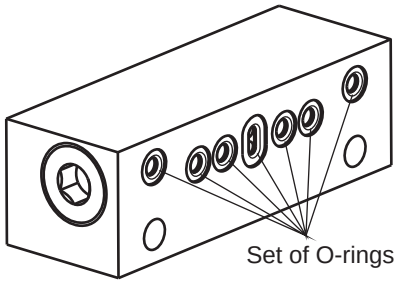
Metering elements

The metering elements of the progressive distributor SX-4 exactly distribute the lubricant. They contain pistons of different diameters by which the individual metering volumes are determined.



The metering elements are screwed on the intermediate plate with two socket head cap screws DIN 912 M5x35-12.9, with 7,5 Nm torque.

Head cap screw DIN 912-M5x35-12.9:
Order-no.: 090091202144

The sealing between metering element and intermediate plate is reached by O-rings.

O-ring set for metering element:
Order-no.: 4003000D006

Metering elements can be delivered with eight different metering volumes, i.e. with eight different

Metering elements	Order-no.
SX-4 M10	4009981000
SX-4 M15	4009982000
SX-4 M22	4009983000
SX-4 M30	4009984000
SX-4 M40	4009985000
SX-4 M50	4009986000
SX-4 M62	4009987000
SX-4 M76	4009988000

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Dummy elements

For reducing the number of outlets of an existing distributor, for unnecessary lube points or for providing outlets for lubrication points possibly to be attached, two opposite outlets at the connecting plate can be closed and a dummy element can be installed instead of a metering element.

A dummy element contains no piston and therefore no lubricant is metered.

When a distributor is provided with a dummy element, the outlets below the dummy element have to be locked.

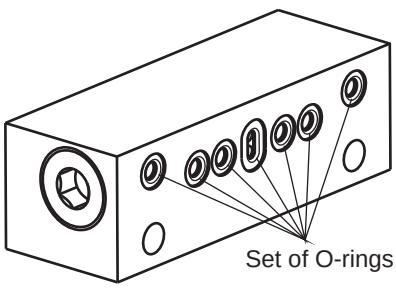
After the installation of a dummy element, the distributor has to consist of an intermediate- and a connecting plate with at least four outlets, three metering elements and the dummy element. Three pistons are at least necessary to ensure the perfect function of the distributor.

The sealing screw between the outlets does not have to be removed because the lubricant is supplied directly into the next metering element.

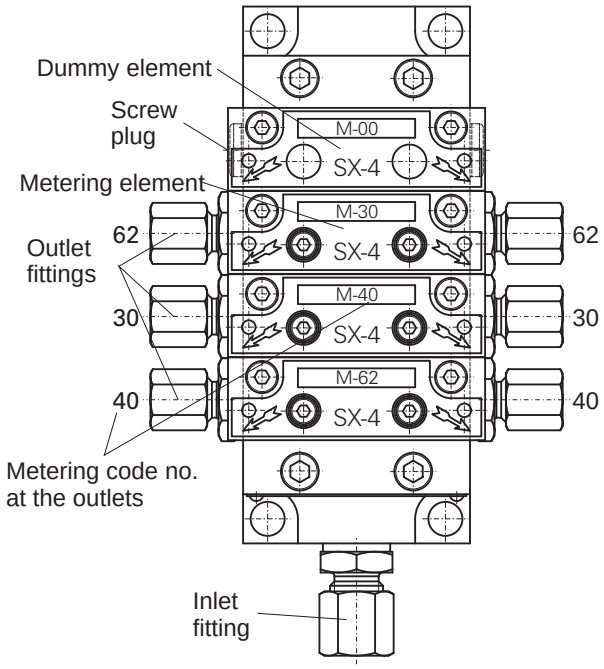
The sealing is reached by O-rings.
Set of O-rings for a dummy element:
Order-no.: 4003000D006
The dummy elements are fixed on the intermediate plate each with two socket head cap screws DIN 912 - M5x35 - 12.9 with 7,5 Nm torque.

Head cap screw DIN 912 - M5x35 - 12.9,
Order-no.: 090091202144

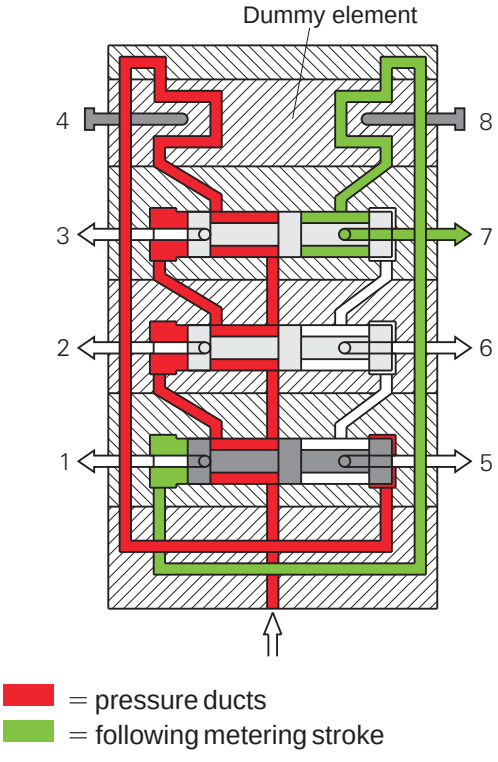
Note: Please pay attention to utmost cleanness when working at distributors.
Dummy element **SX-4 M00** (w. set of O-rings),
Order-no.: 4009980000



Example: Dummy element installed at the end of a distributor



The outlets (4 and 8) below the dummy element are locked. (At these outlets, the volume of the first metering element would come out if no dummy element was installed.) The lubricant now comes out of the outlets (3 and 7) below the metering element and before the dummy element.
Function scheme:



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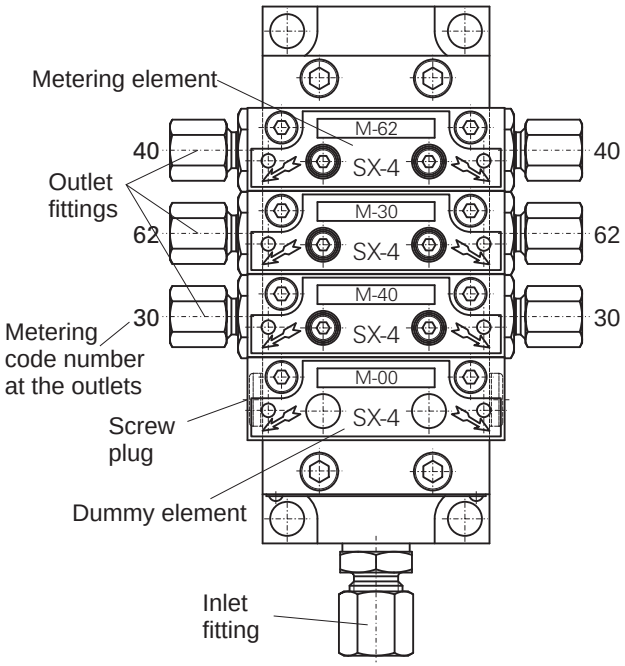
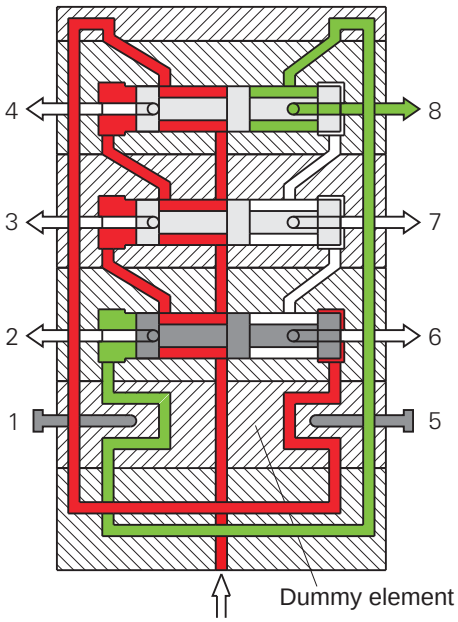
Example: Dummy element installed at the beginning of a distributor

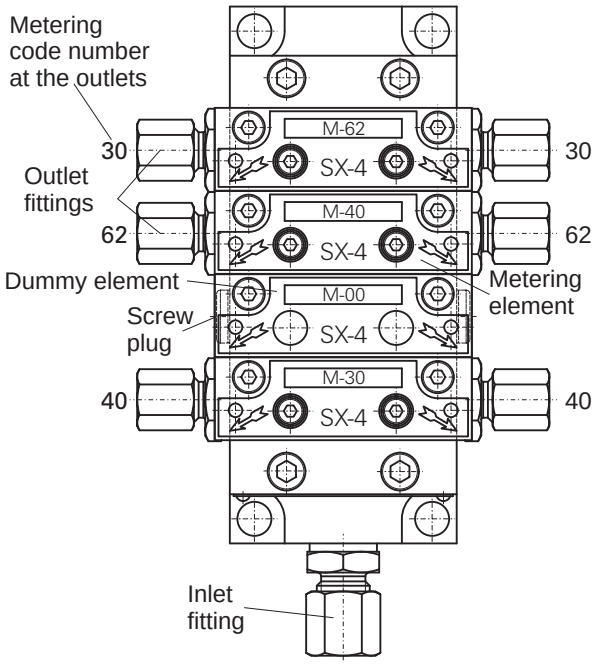


The outlets (1 and 5) below the dummy element are locked. The lubricant volume of the first metering element comes out of the outlets (4 and 8) below the last metering element.

Function scheme:

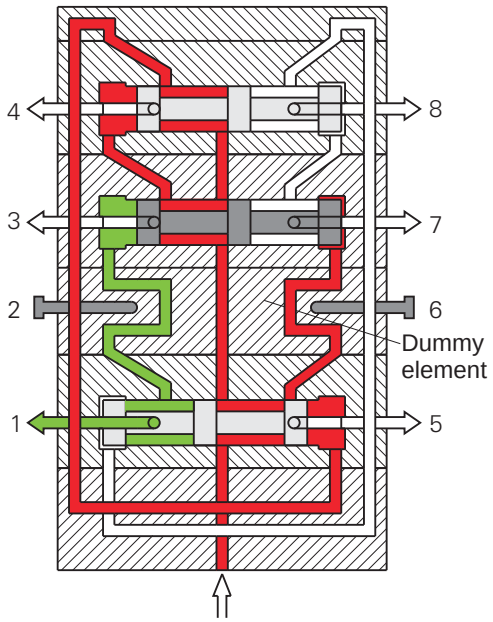


Example: Dummy element installed between two metering elements



The outlets (2 and 6) below the dummy element are locked. The volume of the second metering element comes out of the outlets (1 and 5) below the first metering element.

Function scheme:



= pressure ducts
= following metering stroke

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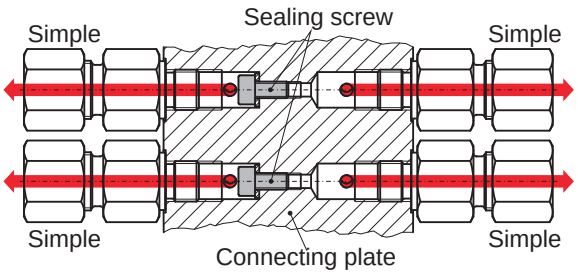
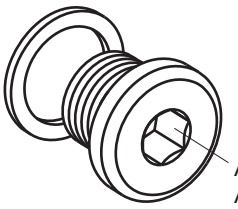
Combination of outlets

For lubrication points with a higher lubricant consumption, it could become necessary to combine two or several outlets at the progressive distributor.
For each metering element, there are two opposite outlets at the connecting plate.



Combination of outlets
Screw plug and sealing ring for locking outlets:



Order-no. for distributor with outlet G1/8:

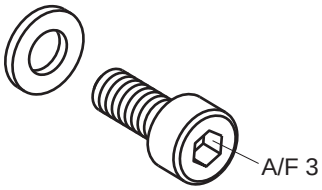
Screw plug G1/8:	090090800313
Sealing ring A10x14x1:	090760300311

Order-no. for distributor with outlet G1/4:

Screw plug G1/4:	090090800513
Sealing ring A14x18x1,5:	090760300611

Separating outlets

To separate combined outlets at progressive distributors again, the sealing screw with the sealing ring has to be screwed in again and instead of the screw plug, an outlet fitting, or a distributor bridge has to be connected.
Sealing screw and sealing ring for separating outlets:



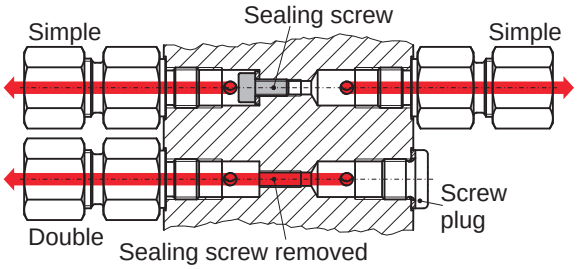
Order-no.:

Sealing screw M4x8:	090091200123
Sealing ring A4x8x1:	090760301211

Combination of two opposite outlets

To combine the metering volume of a metering element, which would otherwise come out of two opposite outlets, the concerned outlets can be connected. To this purpose, the sealing screw and the sealing ring between the two outlets have to be removed and one of the outlets has to be locked with a screw plug and a sealing ring. Both outlets' metering volume now comes out of the open side, i.e. the metering volume doubles.

Two opposite outlets combined in the connecting plate:



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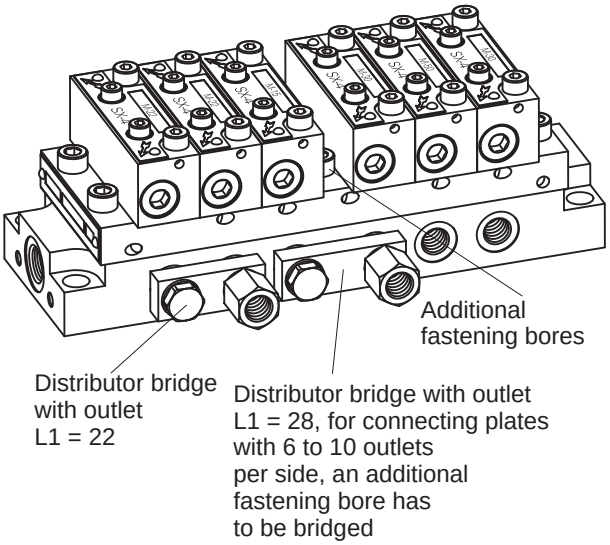
Combination of adjacent outlets

If the total metering volume of the combined opposite outlets is not sufficient, for very large bearing points or for main distributors e.g., there is the possibility to combine the metering volume of adjacent outlets.

Distributor bridge with outlet

With the help of distributor bridges with outlet, two, three or four metering volumes of two adjacent metering elements can be combined.



Distributor bridge with outlet without non-return valve

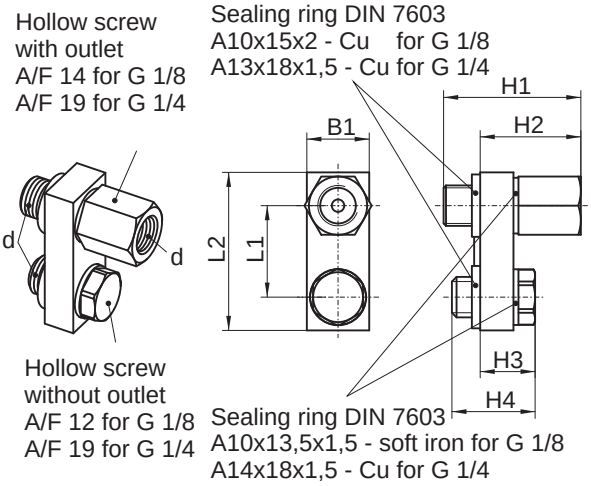


Table of the installation dimensions:

d	L1	L2	B1	H1	H2	H3	H4
G 1/8	22	38	15	33	24,2	13,2	20
G 1/8	28	44	15	33	24,2	13,2	20
G 1/4	22	42	20	42	32,0	16,0	26
G 1/4	28	48	20	42	32,0	16,0	26

Table of order-no. for distributor bridge with outlet and without non-return valve:

d	L1	Non-return valve	Order-no.
G 1/8	22	without	4009980030101
G 1/8	28	without	4009980030102
G 1/4	22	without	4009980030201
G 1/4	28	without	4009980030202

Distributor bridge with outlet and a non-return valve (in the hollow screw without outlet)

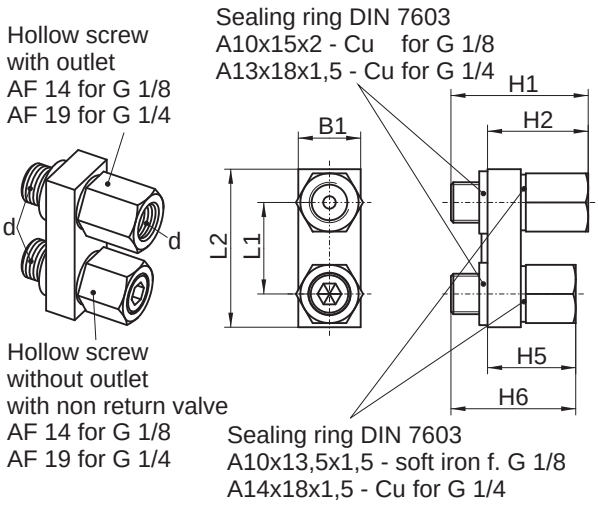


Table of the installation dimensions:

d	L1	L2	B1	H1	H2	H5	H6
G 1/8	22	38	15	33	24,2	21,2	30
G 1/8	28	44	15	33	24,2	21,2	30
G 1/4	22	42	20	42	32,0	26,0	36
G 1/4	28	48	20	42	32,0	26,0	36

Table of order-no. of a distributor bridge with outlet with a non-return valve:

d	L1	Non-return valve	Order-no.
G 1/8	22	with 1	4009980040101
G 1/8	28	with 1	4009980040102
G 1/4	22	with 1	4009980040201
G 1/4	28	with 1	4009980040202

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Distributor bridge with outlet and non-return valve in both hollow screws

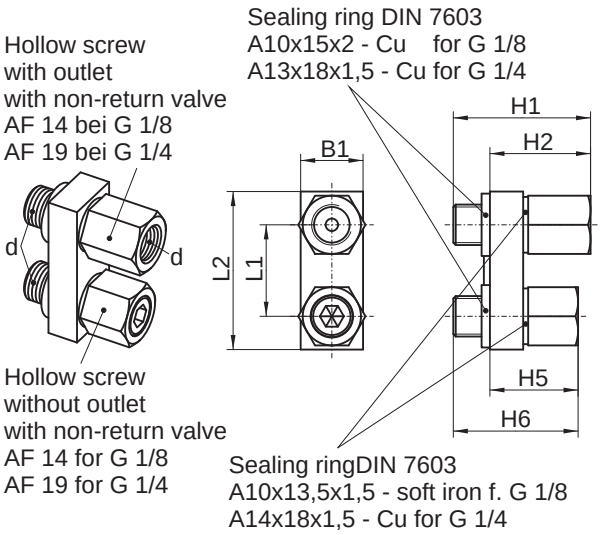


Table of the installation dimensions:

d	L1	L2	B1	H1	H2	H5	H6
G 1/8	22	38	15	33	24,2	21,2	30
G 1/8	28	44	15	33	24,2	21,2	30
G 1/4	22	42	20	42	32,0	26,0	36
G 1/4	28	48	20	42	32,0	26,0	36

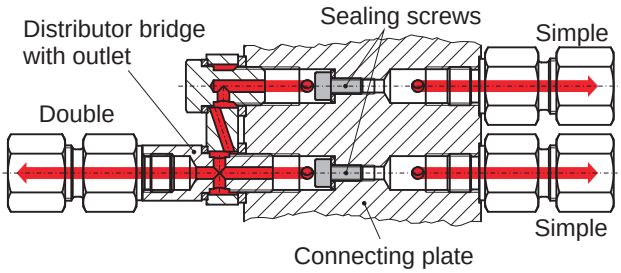
Table of order-no. for a distributor bridge with outlet with two non-return valves:

d	L1	Non-return valve	Order-no.
G 1/8	22	with 2	4009980050101
G 1/8	28	with 2	4009980050102
G 1/4	22	with 2	4009980050201
G 1/4	28	with 2	4009980050202

Two metering volumes combined at two adjacent outlets

The metering volumes of two adjacent outlets can be combined with a distributor bridge with outlet. To this purpose, the outlet fittings of the two outlets that should be combined, are removed and a distributor bridge with outlet is mounted instead. The sealing screws between the individual outlets have to be kept in place.

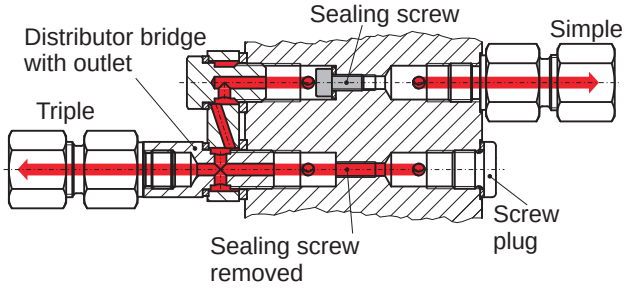
The metering volumes of the outlets now come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of the two outlets accumulate. Please take care that the metering elements' volumes always come out of the outlet below the previous metering element.



Three metering volumes combined at two adjacent outlets

When three metering volumes of two outlets should be combined, the sealing screw and the sealing ring at one of the two pairs of outlets has to be removed. The outlet fittings of the concerned outlets, whose metering volume should be combined, are replaced by a distributor bridge with outlet on one side. The outlet opposite to the distributor bridge, of which the sealing screw has been removed, has to be locked with a screw plug and a sealing ring.

The metering volumes of the three outlets now come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate. It is important that the metering volume of each element comes out of the outlet below the previous metering element.



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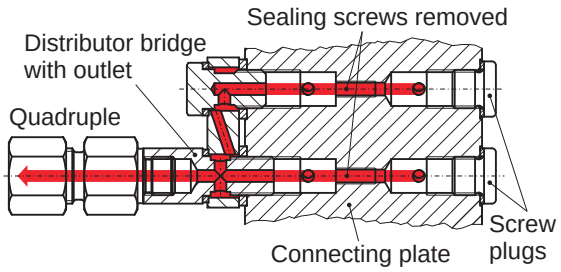
Four metering volumes combined at two adjacent outlets

When four metering volumes of two adjacent metering elements should be combined, the sealing screws and sealing rings in both concerned pairs of outlets have to be removed. The concerned outlets' fittings, whose volume should be combined, are replaced by a distributor bridge with outlet on one side and by screw plugs and sealing rings on the other side.

The metering volumes of these four outlets now come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate. It is important that the metering volume of each element comes out of the outlet below the previous metering element.



Distributor bridge without outlet

With the help of distributor bridges without outlet, three or four metering volumes of two adjacent metering elements can be combined.

Distributor bridge without outlet without non-return valve

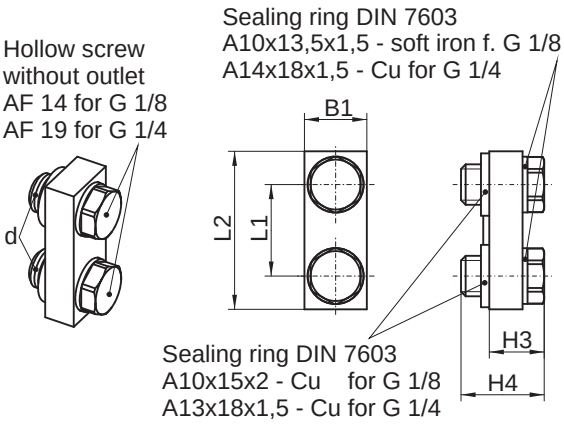


Table of installation dimensions:

d	L1	L2	B1	H3	H4
G 1/8	22	38	15	13,2	20
G 1/8	28	44	15	13,2	20
G 1/4	22	42	20	16,0	26
G 1/4	28	48	20	16,0	26

Table of order-no. for a distributor bridge without outlet without non-return valve:

d	L1	Non-return valve	Order-no.
G 1/8	22	without	4009980010101
G 1/8	28	without	4009980010102
G 1/4	22	without	4009980010201
G 1/4	28	without	4009980010202

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Distributor bridge without outlet with a non-return valve

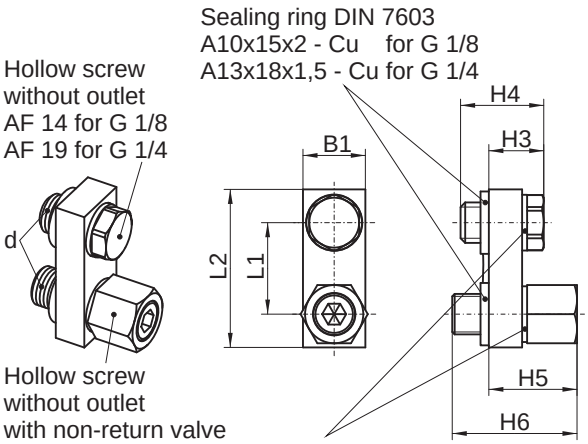


Table of installation dimensions:

d	L1	L2	B1	H3	H4	H5	H6
G 1/8	22	38	15	13,2	20	21,2	30
G 1/8	28	44	15	13,2	20	21,2	30
G 1/4	22	42	20	16,0	26	26,0	36
G 1/4	28	48	20	16,0	26	26,0	36

Table of order-no. for distributor bridge without outlet with a non-return valve:

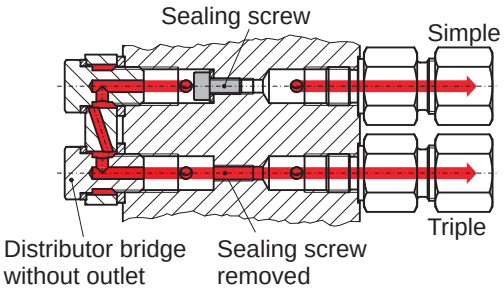
d	L1	Non-return valve	Order-no.
G 1/8	22	with 1	4009980020101
G 1/8	28	with 1	4009980020102
G 1/4	22	with 1	4009980020201
G 1/4	28	with 1	4009980020202

Three metering volumes combined at two adjacent outlets

When three metering volumes of two adjacent metering elements should be combined, the sealing screw and the sealing ring have to be removed of one of the concerned pairs of outlets. The outlet fittings of those outlets are replaced by a distributor bridge without outlet on one side.

The metering volumes of the three outlets now come out of the open outlet opposite to the distributor bridge without outlet, i.e. the metering volume code numbers of those outlets accumulate.

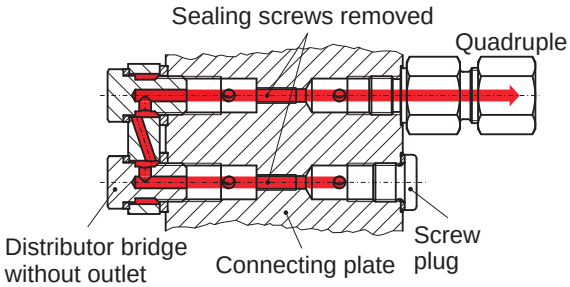
Please take care that the metering volume of each metering element always comes out of the outlets below the previous element.



Four metering volumes combined at two adjacent outlets

When all four metering volumes of two adjacent metering elements should be combined, the sealing screw and the sealing ring have to be removed from both concerned pairs of outlets. The outlet fittings of those outlets are replaced by a distributor bridge without outlet on one side. On the other side, a screw plug and a sealing ring have to be screwed into one outlet.

The metering volumes of all four outlets now come out of the open outlet opposite to the distributor bridge without outlet, i.e. the metering volume code numbers of these outlets accumulate. It is important that the metering volume of each metering element comes out of the outlet below the previous element.



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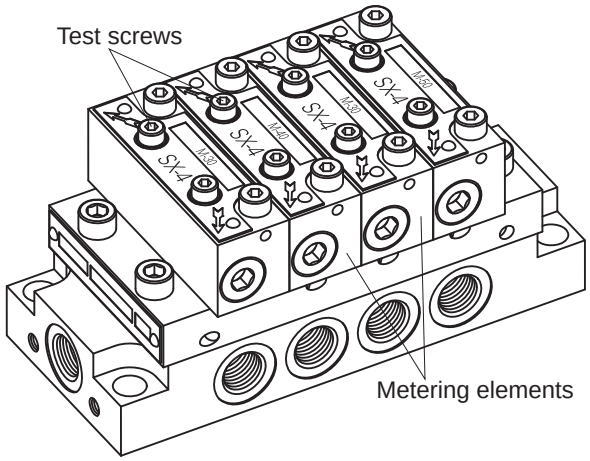
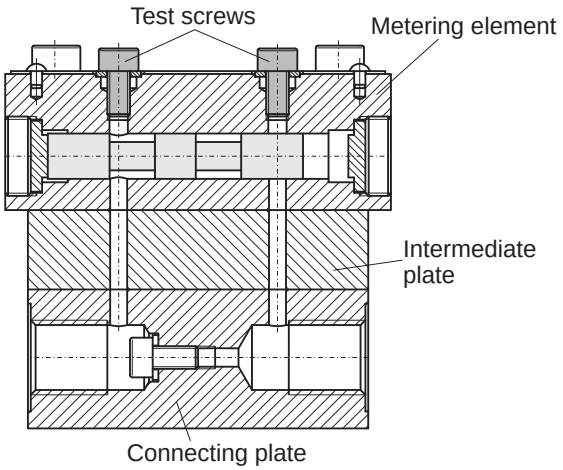
Blockade test

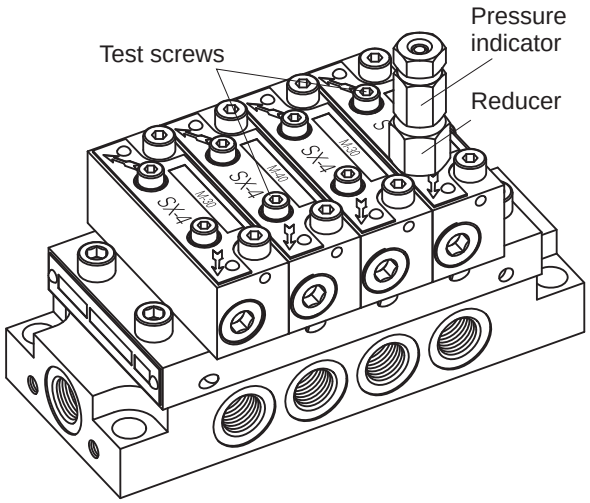


When the progressive distributor blocks because of a locked lubrication line, this point can be found quickly by opening the test screws in the elements. The lubricant can come out of the screw which is in the metering element above the blocked outlet and the progressive distributor operates again.
It is important that the metering volume of each metering element always comes out of the outlet of the before lying outlet in direction of the distributor inlet.



Pressure indicator

Instead of test screws, pressure indicators can be installed.



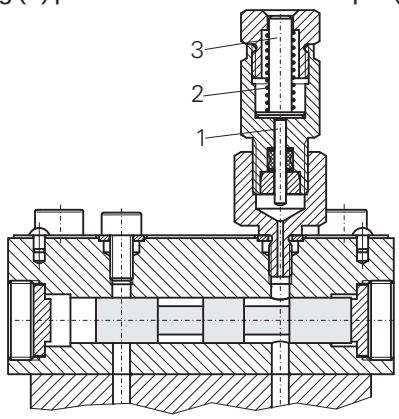
The pressure indicator locates locked lubrication point lines or blocked progressive distributors.

Installation:

- Remove the test screw.
- Screw in the reducer and the O-ring.
- Screw the pressure indicator into the reducing socket.
-

Functional description:

When the pressure increases, the pin (1) is pushed out against the spring force (2) and the indicator pin (3) becomes visible. When pressure is decreased, the spring (2) pushes back the indicator pin (3).



See order numbers and installation dimensions under “Accessory progressive distributors”.
When the distributor’s function shall be ensured despite the locked distributor outlet, the distributor can be provided with a so-called **blockade control**. See “Accessory progressive distributors”.

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Elements with proximity switches

For monitoring the system or for the use of cycle controls for counting the piston strokes can proximity switches be attached to SX-4 progressive distributors.

Three different proximity switches are available (see table). In the case that further indications are missing, the proximity switch M18x1 is mounted on the right side at the last element. Assembly on thr left side or of another proximity switch has to indicated separately.

Metering elements with proximity switch have to be indicated with the order, as it is not possible to retrofit a proximity switch to an existing element.

Proximity switches can only be installed later to a progressive distributor when the concerned element is replaced.

The proximity switch is delivered without cable, it has to be ordered separately (see “Accessory progressive distributor”).

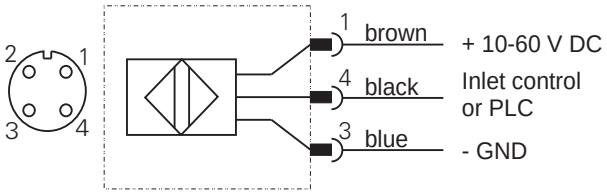
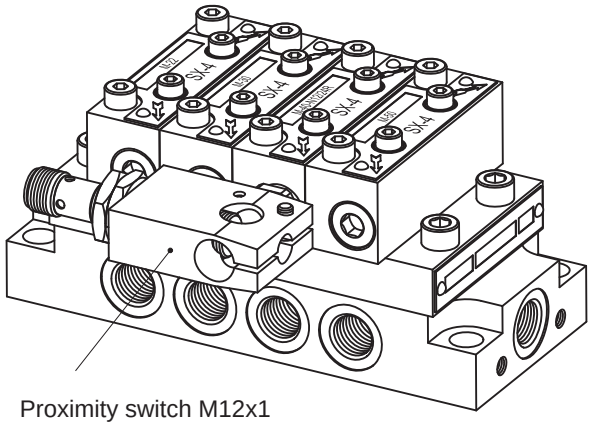


Table of proximity switches:

Size	**M12x1** (special version)	**M18x1** (standard)	**M30x1,5** (special version)
Connection	plugable M12x1		
Switch type	PNP NO		
Current load	200 mA		
Voltage	10 to 60 V DC		
perm. ambient temperature	-40 °C to 85 °C		
Function indication	LED yellow		
Material	stainless steel		
Protection class	IP 67 / IP 69K		
Metering elements	SX-4 M40 to M76	SX-4 M30 to M76	
Spare part Order-no.	100091865	1000912586	1000912587

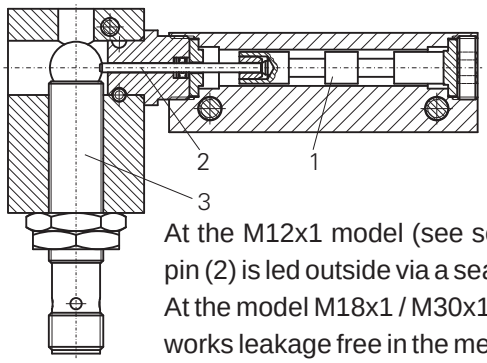
Progressive distributor SX-4 with proximity switch:



Proximity switch M12x1
installed on the left side

Functional description:

A pin (2) is fixed at the piston of the metering element (1). It approaches the proximity switch (3) with each piston stroke and initiates a signal. This signal can be, depending on the type of control or the individual case, evaluated differently.



At the M12x1 model (see section), a pin (2) is led outside via a sealing.
At the model M18x1 / M30x1,5 the pin works leakage free in the medium.

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Installation dimensions for the proximity switch M12x1:

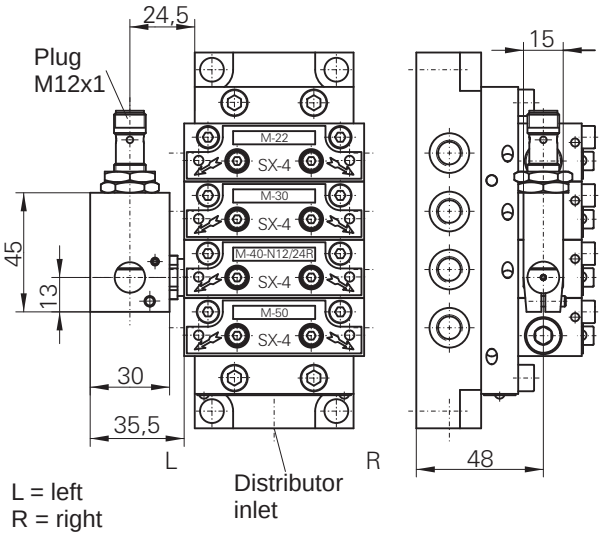

Table of order-no. for metering element with proximity switch M12x (special model):

Metering element with NS M12x1	Pos.	Order-no.
SX-4 M40 N12/24 R	right	4009985N12/24R
SX-4 M40 N12/24 L	left	4009985N12/24L
SX-4 M50 N12/24 R	right	4009986N12/24R
SX-4 M50 N12/24 L	left	4009986N12/24L
SX-4 M62 N12/24 R	right	4009987N12/24R
SX-4 M62 N12/24 L	left	4009987N12/24L
SX-4 M76 N12/24 R	right	4009988N12/24R
SX-4 M76 N12/24 L	left	4009988N12/24L

Installation dimensions for proximity switch M18x1:

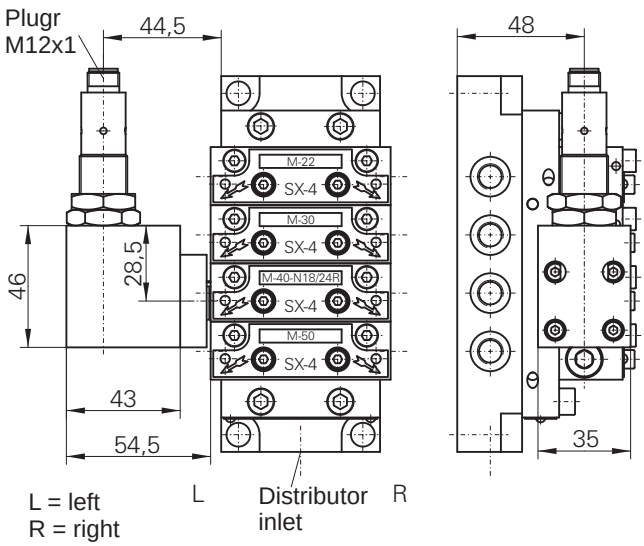

Table of order-no. for metering element with proximity switch M18x1 (standard):

Metering element with NS M18x1	Pos.	Order-no.
SX-4 M30 N18/24 R	right	4009984N18/24R
SX-4 M30 N18/24 L	left	4009984N18/24L
SX-4 M40 N18/24 R	right	4009985N18/24R
SX-4 M40 N18/24 L	left	4009985N18/24L
SX-4 M50 N18/24 R	right	4009986N18/24R
SX-4 M50 N18/24 L	left	4009986N18/24L
SX-4 M62 N18/24 R	right	4009987N18/24R
SX-4 M62 N18/24 L	left	4009987N18/24L
SX-4 M76 N18/24 R	right	4009988N18/24R
SX-4 M76 N18/24 L	left	4009988N18/24L

Installation dimensions for a proximity switch M30x1,5:

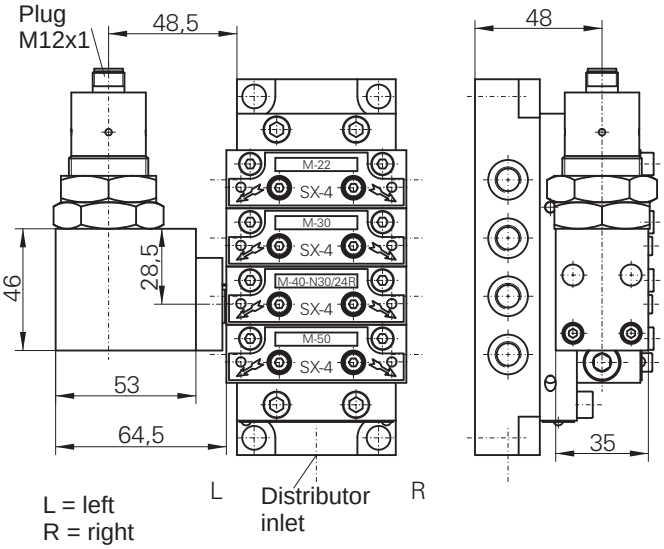

Table of order-no. with proximity switch M30x1,5 (special model):

Metering element with NS M30x1,5	Pos.	Order-no.
SX-4 M30 N30/24 R	right	4009984N30/24R
SX-4 M30 N30/24 L	left	4009984N30/24L
SX-4 M40 N30/24 R	right	4009985N30/24R
SX-4 M40 N30/24 L	left	4009985N30/24L
SX-4 M50 N30/24 R	right	4009986N30/24R
SX-4 M50 N30/24 L	left	4009986N30/24L
SX-4 M62 N30/24 R	right	4009987N30/24R
SX-4 M62 N30/24 L	left	4009987N30/24L
SX-4 M76 N30/24 R	right	4009988N30/24R
SX-4 M76 N30/24 L	left	4009988N30/24L

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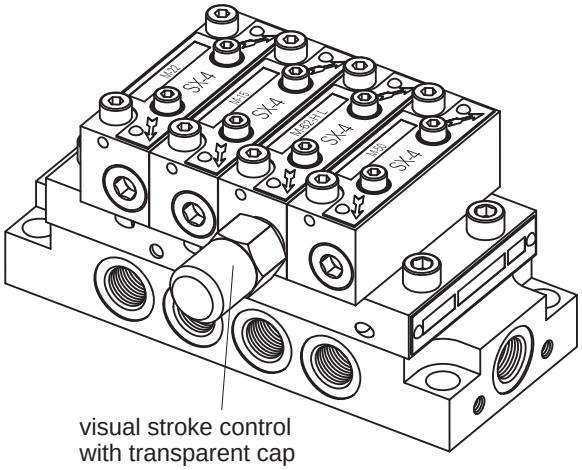
Elements with visual stroke control

A visual stroke control can be mounted to SX-4 distributors, instead of the proximity switch.

The visual stroke control can optionally be attached to the metering elements SX-4 M30 to SX-4 M76, however standard is installation on the right side.

The visual stroke control has to be considered when the order is placed, a later installation to an existing element is not possible.



Functional description:

A pin (2) is fixed at the piston of the metering element (1). This pin appears at each piston stroke in the transparent cap (3).

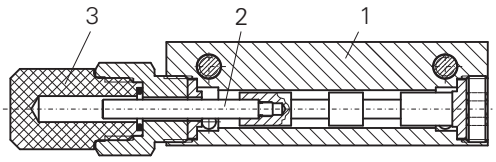
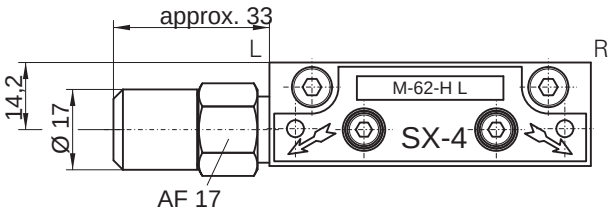


Table of order-no. for metering element SX-4 with visual stroke control:

Metering element w. visual stroke control	Pos.	Order-no.
SX-4 M30 H R	right	4009984H00R
SX-4 M30 H L	left	4009984H00L
SX-4 M40 H R	right	4009985H00R
SX-4 M40 H L	left	4009985H00L
SX-4 M50 H R	right	4009986H00R
SX-4 M50 H L	left	4009986H00L
SX-4 M62 H R	right	4009987H00R
SX-4 M62 H L	left	4009987H00L
SX-4 M76 H R	right	4009988H00R
SX-4 M76 H L	left	4009988H00L

Installation dimensions:



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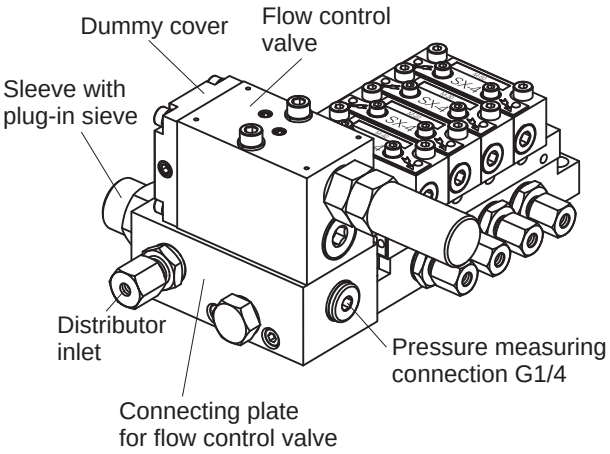
Special accessory flow control valve

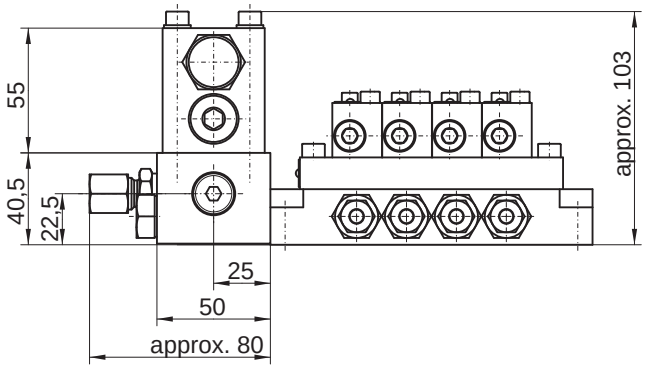
A flow control valve also can be mounted at SX-4 distributors. To this effect, a connecting plate is fixed before the inlet of the progressive distributor. The flow control valve is then fixed on this plate.

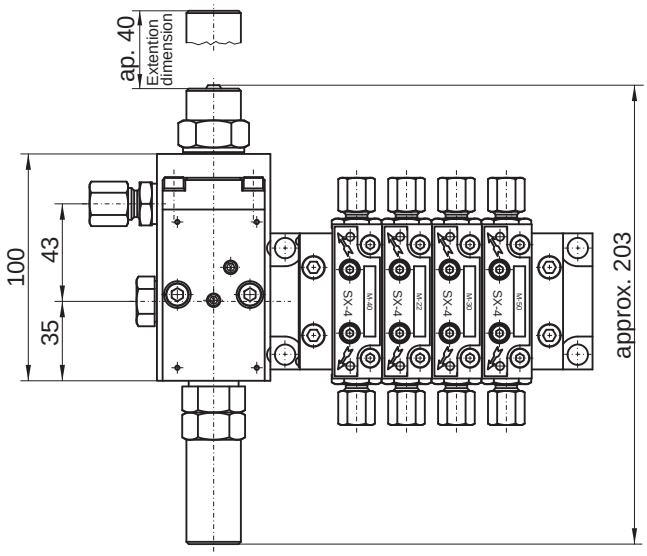
The flow control valve serves for adjusting the volume of the supplied lubricant.

When the system has to stand impacts, the distributor should be mounted crosswise to the operation direction.



Installation dimensions with flow control valve:





Technical data of the flow control valve:

Operating pressure:	10 to 250 bar
Pressure loss (Dp):	7 bar
Medium:	oils on synthetic and mineral base
Viscosity range:	10 to 1000 mm²/s
Temperature range:	0 °C to 60 °C
Volume flow:	0,1 to 8 l/min.
Installation position:	dependent on progressive distributor
Material:	steel, barnished

A lubricant volume flow of 2 l/min must not be exceeded.

Order number

Conn. plate f. distributor	with plug-in sieve (wire gauze filter)	Order-no.
SX-4	MW* 0,1 mm	40620101
SX-4	MW* 0,3 mm	40620102

* MW = Maschenweite = mesh size

Spare part plug-in sieve (wire gauze filter)	Order-no.
MW* 0,1 mm	04410057
MW* 0,3 mm	04410064

* MW = Maschenweite = mesh size

See functional description of the flow control valve and order-no. under “Accessory circulating lubrication systems”.

A **monitoring element (volume flow control)** can be mounted to a flow control valve (see “Accessory circulating lubrication systems”).

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Special accessory directional valve

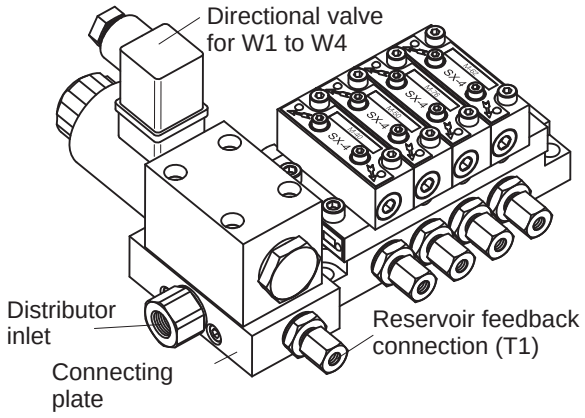
Directional control valves with five different functions can also be attached to a progressive distributor SX-4.

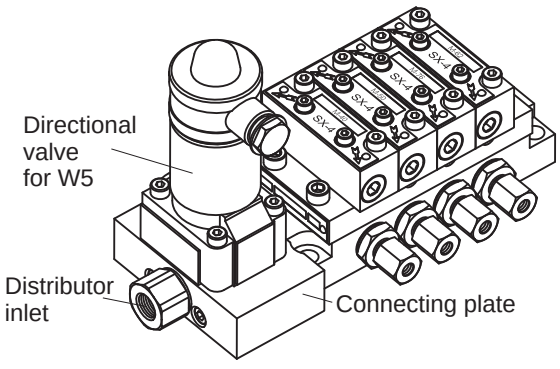
The directional control valve regulates the load- and time depending oil volume flow in systems with a low lubricant consumption. Therefore a lubricant volume flow of 2 l/min must not be exceeded.

A connecting plate is fixed before the distributor inlet, which contains the connection bores for the corresponding directional valve NG 6 according to DIN 24340, ISO 4401 and CETOP.

The directional valves (manufacturer) can be selected by the customer.

The connecting plates for the switch symbols W1, W2 and W5 are for the direct oil supply without connecting a main distributor before. When the distributor is supplied by a main distributor, the connecting plates for the switch symbols W3 and W4 have to be used.

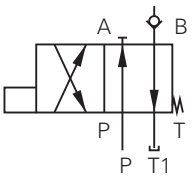




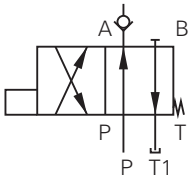
Order-no. for connecting plates:

for switch symbols	Order-no.
W1	40660100
W2	40660200
W3	40660300
W4	40660400
W5	40660500

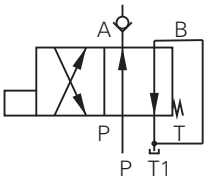
Switch symbol W1:



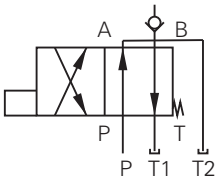
Switch symbol W2:



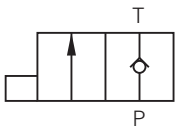
Switch symbol W3:



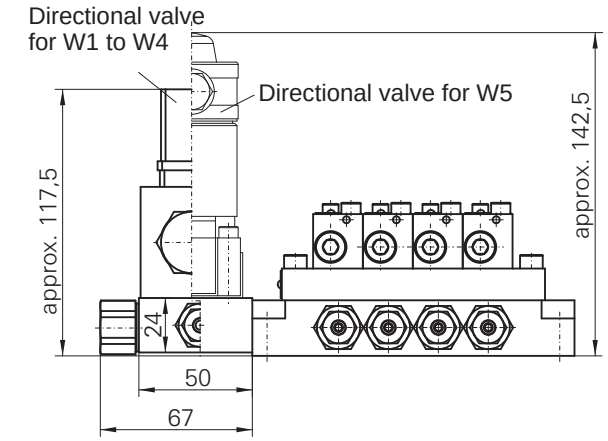
Switch symbol W4:

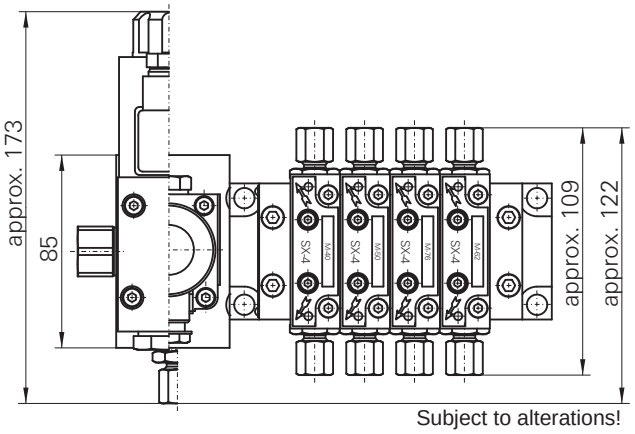


Switch symbol W5 (Seat valve):



Dimension drawing:





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Adjustment of the distributor

Progressive distributors SX-4 can be adjusted to the application conditions.

When lube points are unnecessary, a metering element can be replaced by a dummy element.

If more lubrication points are required, an existing dummy element can be replaced by a metering element.

In the case of an alteration of the metering volume, you can exchange the elements.

Replacement of a metering element by another metering element or a dummy element:

- Remove the fillister head cap screws
- Replace the existing metering- or dummy element by a new metering- or dummy element.
- Screw in the head cap screws again
- When a dummy element is attached, lock the outlets below the dummy element each with a screw plug and a sealing ring

Note: **When working at the distributors please pay attention to utmost cleanness.**

Note: **A SX-4 distributor has to consist of at least three metering elements.**

When one of the O-rings, which are used for sealing the distributor between the metering elements and the intermediate plate, is damaged and does not seal any more, those O-rings can be reordered in sets (see “Metering elements” of the progressive distributor SX-4).

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Order key

Connecting plates for special accessory

As special accessory, a flow control valve and five different directional control valves can be attached to

Special access.	Designation
00	without special accessories
MB	flow control valve
MB2	limiting device
W1	directional valve (see “special accessories directional valve)
W2	
W3	
W4	
W5	

Distributor inlet

The progressive distributor SX-4 can be delivered with or without fitting. When the fittings should be delivered already installed into the distributor, they have to be marked with the pipe diameter and the series L:

Inlet	Designation
G1/4	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10 or 12, series L
GE08L	
GE10L	
GE12L	
WE08L	elbow screw fitting, pipe-Ø 8 or 10, series L
WE10L	
WS08L	elbow swiveling screw fitting, pipe-Ø 8 or 10, series L
WS10L	

The fittings can also be ordered separately (see “Accessories progressive distributor or “Fittings and accessories”).

When no indication regarding the fittings is made, the delivery is without fittings as a standard!

Distributor outlet

The distributor outlet can be delivered either with threaded connection G1/8 or G1/4. The type of fitting at the distributor outlets has to be indicated with the diameter and the series, when being ordered:

Outlets	Designation
G1/8	without fitting
G1/4	without fitting
GE1/8LL06	male stud coupling, conn. thread **G 1/8**, pipe-Ø 6 or 8, series L or LL
GE1/8LL08	
GE1/8L06	
GE1/4L06	male stud coupling, conn. thread **G 1/4**, pipe-Ø 6, 8, 10 or 12, series L
GE1/4L08	
GE1/4L10	
GE1/4L12	
RGE1/8LL06	non-return valve conn. thread **G 1/8**, pipe-Ø 6 or 8, series L or LL
RGE1/8LL08	
RGE1/8L06	
RGE1/8L08	
RGE1/4L06	non-return valve conn. thread **G 1/4**, pipe-Ø 6, 8, 10 or 12, series L
RGE1/4L08	
RGE1/4L10	
RGE1/4L12	

Metering volume

The metering volume code numbers **10** to **76** (see table “Technical description”) have to be indicated according to the position of the metering elements as well as in the order in which the lubricant comes out on each side, always seen from the distributor inlet and separated by a **slash** (/). For distributor bridges please make a **plus** (+) instead of the slash.

The dummy elements have to be marked with a **00** when the position is indicated in the order key.

At combined outlets, the metering code numbers accumulate (see “Combination of outlets”).

Screw plugs and outlets closed by distributor bridges are marked with a **line** (--). Sealing screws that have to be removed should be marked with a **star** (*) in the

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Proximity switch

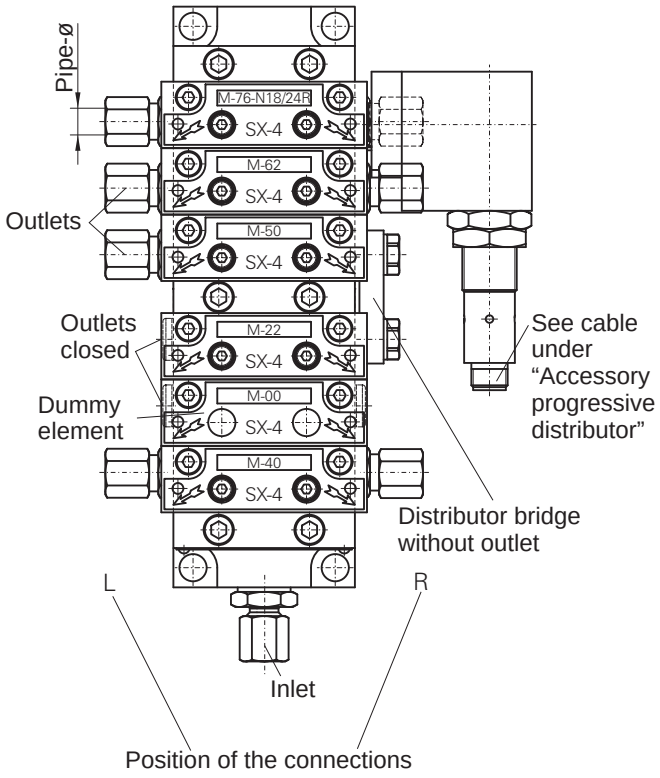
Three different proximity switches are available:

NS	Designation
N12/24	proximity switch M12x1
N18/24	proximity switch M18x1 (standard)
N30/24	proximity switch M30x1,5

For other proximity switches the thread diameter of the proximity switch has to be indicated after the code letter **N** and after the **slash**(/) the proximity switch's voltage.

The installation position of the proximity switch has to be indicated with **NS** and right or left, as desired, after the metering code number of the metering element:
R =right
L =left

As a standard, the proximity switch is attached on the right side at the first possible element of the distributor's end, when no other indication concerning the installation is made.



* Sealing screw removed

Order example

Type	SX-4 00 06 / 07 - GE06L / RGE1/8LL06 N18/24
Special access.	
No. of metering / dummy elements	
No. of outlets	
Inlet fitting	
Outlet fitting	
Thread diameter of proximity switch	
Voltage	
Position of metering / dummy elem. (at outlet)	
Connection position	
Metering code-no. at outlet	

40 / 00 / 22 / 50 / 62 / 76
R 22 / --- / --- + --- / 76 / 40 NS
L 22 / --- / --- / 224 / 76 / 40

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Technical description

The progressive distributors UX-5 are built modular. This has the advantage that the distributor can be arranged optionally, depending on the number of lubrication points and their lubricant consumption.

The progressive distributor UX-5 consists of a connecting plate, an intermediate plate and metering- or dummy elements.

The different metering volume per piston stroke is reached by different piston diameters of the metering elements.

The metering elements can optionally be exchanged.

For reducing the number of outlets at the progressive distributor UX-5, dummy elements are available. For extending the distributor, a dummy element can be replaced by a metering element.

Please note that the lubricant has to come out of the outlet below the previous metering element.
A progressive distributor needs at least three metering elements (piston elements) for its perfect function.

Technical data

Operating pressure inlet:	min. 3 bar
	max. 150 bar
Temperature range:	-20 °C to 80 °C
Delivery medium:	oil - fluid grease - grease
	up to NLGI-cl. 2
No. of revolutions:	max. 180 rev/min
Material:	steel, galvanized
Connecting plate:	aluminum
Number of elements:	
Min. 3 metering elements:	UX-5 3/6
Max. 10 metering elements:	UX-5 10/20

Progressive distributor UX-5 with six metering elements and twelve outlets:

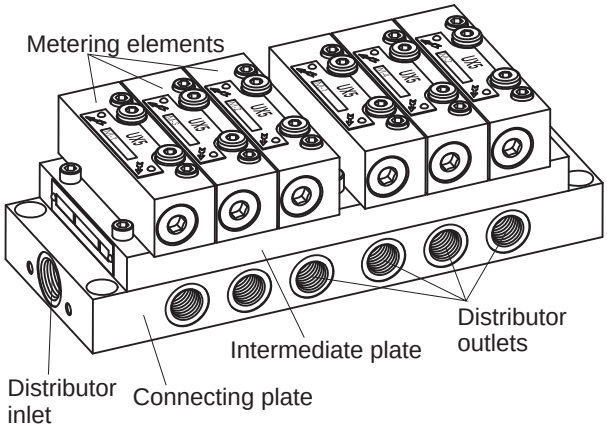

Tabelle Metering volume:

Designation metering element	Metering volume (mm³/stroke)		Code no.
	p. outlet	p. element	
UX-5 M00 (= dummy elem)	-	-	00
UX-5 M1	1000	2000	1
UX-5 M2	1900	3800	2
UX-5 M3	3000	6000	3
UX-5 M4	3800	7600	4

04-3-20-01 state: 05.10GB

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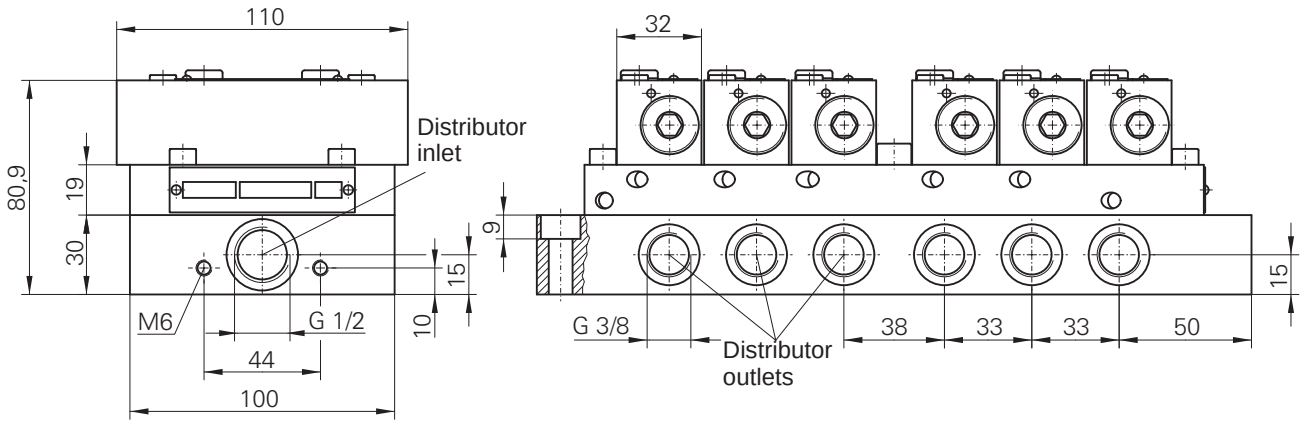
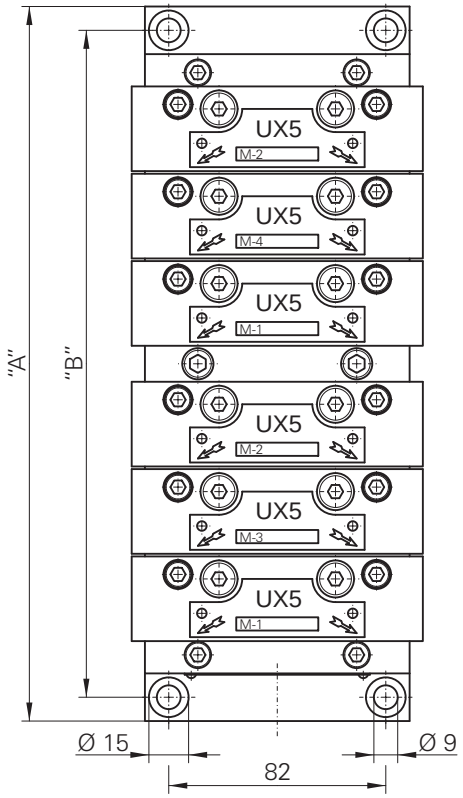
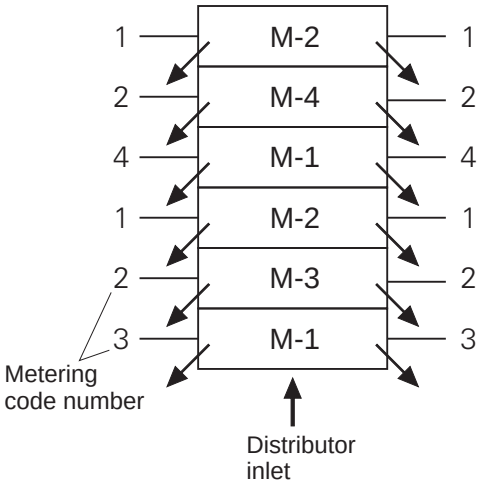
Dimension drawing:





The lubricant always comes out of the before lying outlet, in the direction of the distributor inlet.
See scheme:



No. of metering elements	3	4	5	6	7	8	9	10
No. of outlets (max.)	6	8	10	12	14	16	18	20
Dim. "A" (mm)	166	199	232	270	303	340	373	406
Dim. "B" (mm)	148	181	214	252	285	322	355	388

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Basic elements

UX-5 distributors always consist of a connecting plate, an intermediate plate and three to ten metering elements (with piston) or dummy elements (without piston).

For the perfect function of an UX-5 distributor at least three piston elements are always necessary, i.e. each distributor has to contain at least three metering elements. Dummy elements do not contain pistons and therefore must not be counted.

Connecting plate

Connecting plates can be delivered optionally with three to ten outlets on each side with connection thread G 1/2 at the distributor inlet and G 3/8 at all distributor outlets.

Connecting plates from 6 outlets on have additionally to be fixed with two screws on the intermediate plates. Therefore the distance between the two outlets at this point is 38 mm, otherwise 33 mm.

Position of the additional fastening bores, seen from the inlet:

No. of metering elements	Position of additional fastening drills
6	between 3. and 4. outlets
7 and 8	between 4. and 5. outlets
9 and 10	between 5. and 6. outlets

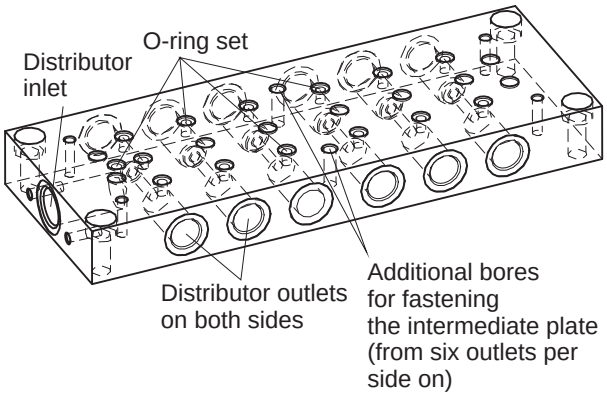

Tabelle Order-no. für Anschlussplatte:

No. of metering elementes	Order-no. connection plate
3	39869603
4	39869604
5	39869605
6	39869606
7	39869607
8	39869608
9	39869609
10	39869610

Intermediate plate

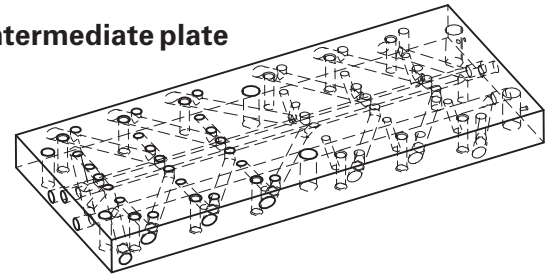

Tabelle order-no. for intermediate plate:

No. of metering elementes	Order-no. intermediate plate
3	39869703
4	39869704
5	39869705
6	39869706
7	39869707
8	39869708
9	39869709
10	39869710

The sealing between the connecting plate and the intermediate plate is done by O-rings, which are already laid into the connecting plate when being delivered.
Sets of O-rings can also be reordered.

Order-no. 398696D03 to 398696D10
(depending on the number of metering elements)

Note: **Please pay attention to utmost cleanness when working at the distributor.**

All pipe fittings with suitable connection thread and suitable nominal pressure can be screwed in the connecting plate's distributor inlet as well as into the distributor outlets (see "Accessory progressive distributors" or "Fittings and accessories").

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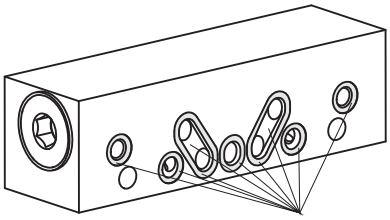
Metering elements

The metering elements of the UX-5 distributor exactly distribute the supplied lubricant. They contain pistons with different diameters by which the individual metering volumes are determined.



Set of O-rings

The metering elements are screwed on the intermediate plate with two socket head cap screws DIN 912 M6x40-12.9, with 16 Nm drawing torque each.

Head cap screw DIN 912-M6x40-12.9:
Order-no.: 090091204341

The sealing between the metering element and the intermediate plate is reached by O-rings.
O-ring sets can also be reordered.

O-ring set for metering elements:
Order-no.: 398696D001

Metering elements can be delivered with four different metering volumes, i.e. with four different piston diameters.

Metering element	Order-no.
UX-5 M1	3986981000
UX-5 M2	3986982000
UX-5 M3	3986983000
UX-5 M4	3986984000

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Dummy elements

To reduce the number of outlets of an existing distributor, for lubrication points which become unnecessary or to provide outlets for lube points possibly to be attached, two opposite outlets at the connecting plate can be locked and a dummy element can be installed instead of a metering element.

A dummy element does not contain a piston and therefore no lubricant volume is metered.
When a distributor is provided with a dummy element, the outlets below the dummy element have to be locked.

After the installation of a dummy element, the distributor has to consist of a connecting and an intermediate plate with at least four outlets and three metering elements and the dummy element, as three pistons are necessary to ensure a perfect function of the distributor.

The sealing screw between the outlets does not have to be removed, as the lubricant is led directly into the next metering element.

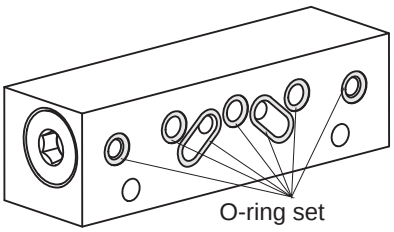
The sealing is reached by O-rings.

O-ring set for dummy element:
Order-no.: 398696D001

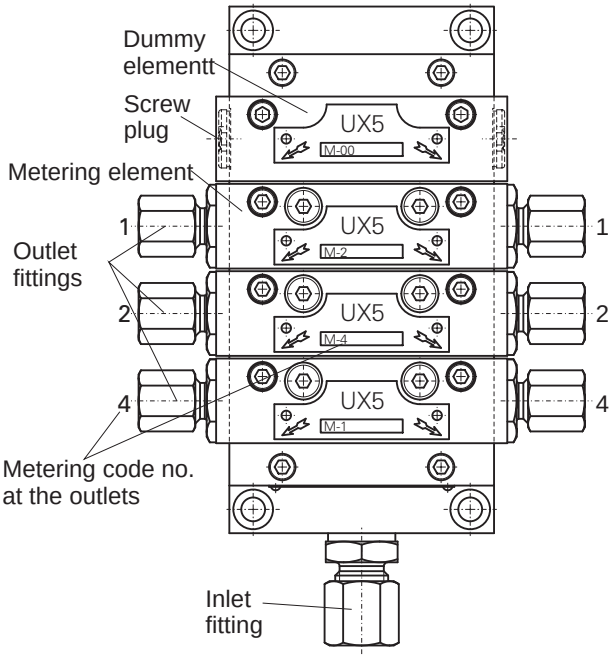
The dummy elements are fixed on the intermediate plate, like the metering elements, with two socket head cap screws DIN 912 M6x40-12.9, with 16 Nm drawing torque.

Note: Please pay attention to utmost cleanness when working at distributors.

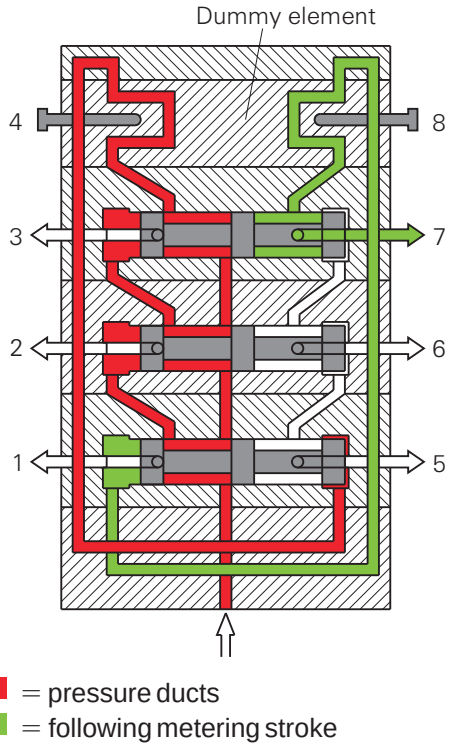
Dummy element **UX-5 M00** (w. set of O-rings),
Order-no.: 3986980000



Example: Dummy element installed at the end of a distributor



The outlets (4 and 8) below the dummy element are locked. (At these outlets the metering volume of the first element would come out, when there was a metering element installed instead of a dummy element.) The first metering element's volume now comes out of the outlets (3 and 7) below the metering element before the dummy element.
Functional scheme:



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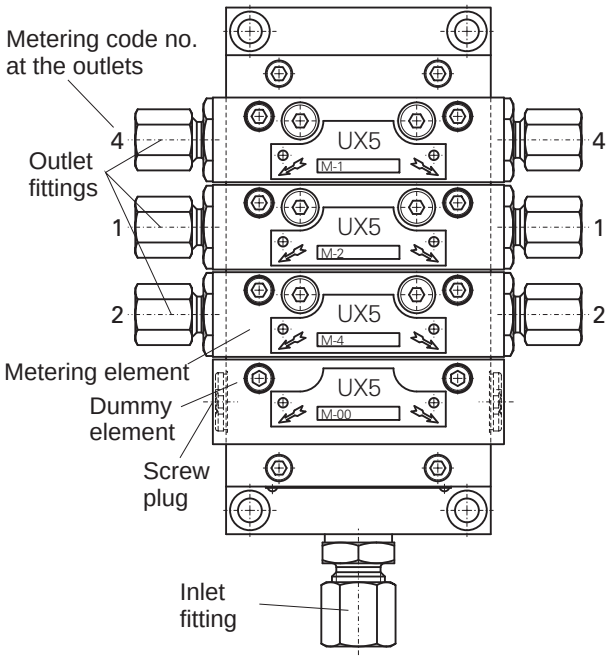
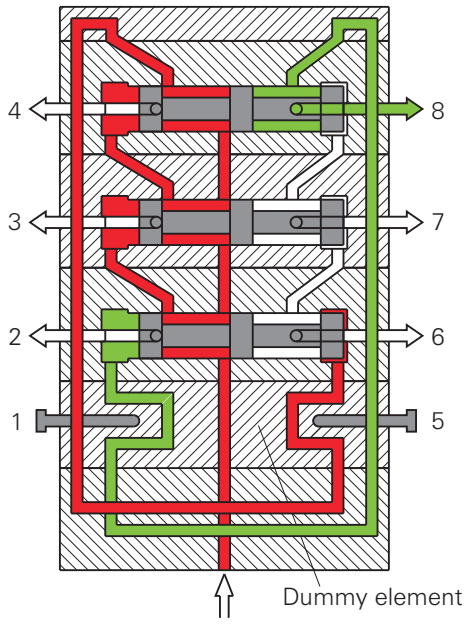
Example: Dummy element installed at the beginning of a distributor

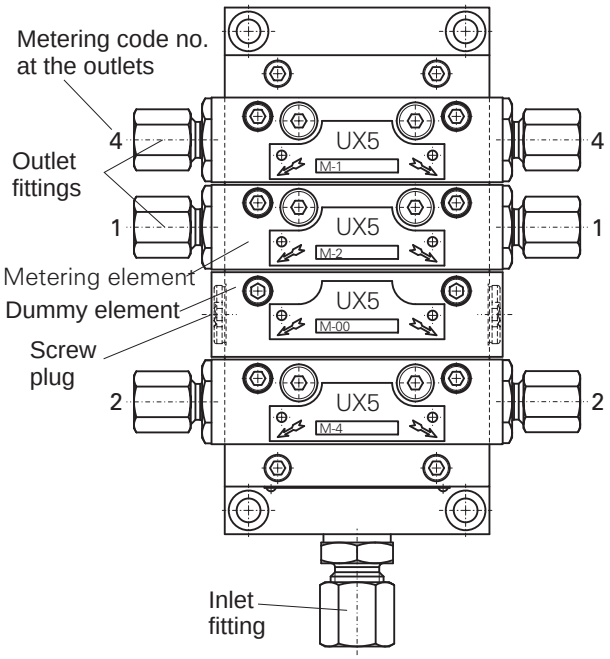


The outlets (1 and 5) below the dummy element are locked. The first metering element's volume comes out of the outlets (4 and 8) below the last metering element.

Functional scheme:

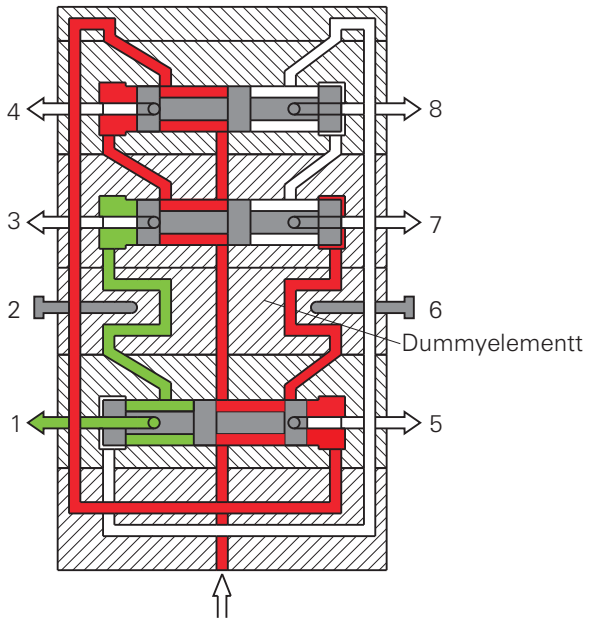


Example: Dummy element installed between two metering elements



The outlets (2 and 6) below the dummy element are locked. The second metering element's volume comes out of the outlets (1 and 5) below the first metering element.

Functional scheme:



= pressure ducts
= following metering stroke

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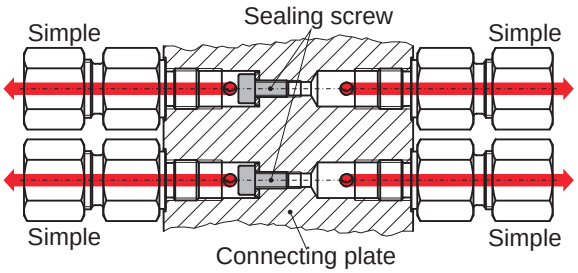
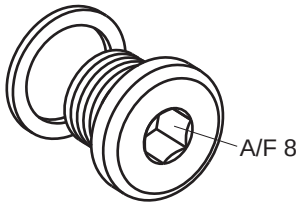
Combination of outlets

For lubrication points with a higher lubricant consumption it may be necessary to combine two or more outlets at the progressive distributor.
There are two opposite outlets at the connecting plate for each metering element.



Combination of outlets
Screw plug and sealing ring for locking outlets:

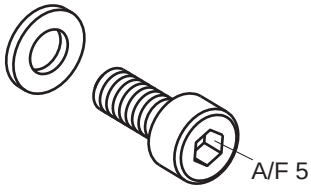


Order-no.:

Screw plug G3/8:	090090800713
Sealing ring A17x21x1,5:	090760301711

Separation of outlets
To separate combined outlets at progressive distributors again, the sealing screw with the sealing ring has to be screwed in again and instead of the screw plug, an outlet fitting or a distributor bridge has to be connected.

Sealing screw and sealing ring for the separation of outlets:



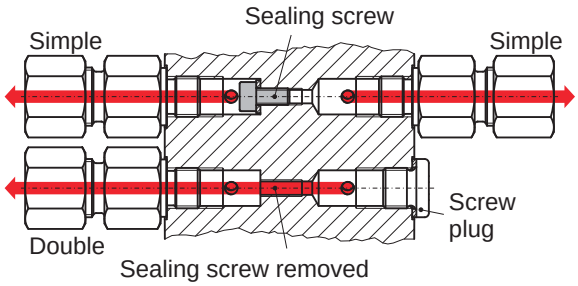
Order-no.:

Sealing screw M6x10:	090091203521
Sealing ring A6x10x1:	090760301411

Combination of two opposite outlets

To combine the metering volume of a metering element, which otherwise would come out of two opposite lying outlets, both outlets can be connected with each other. To this effect, the sealing screw and the sealing ring between the two outlets have to be removed and one of the outlets has to be locked with a screw plug and a sealing ring. The metering volumes of both outlets now come out of the open side, i.e. the metering volume doubles.

Two opposite outlets combined in the connecting plate:



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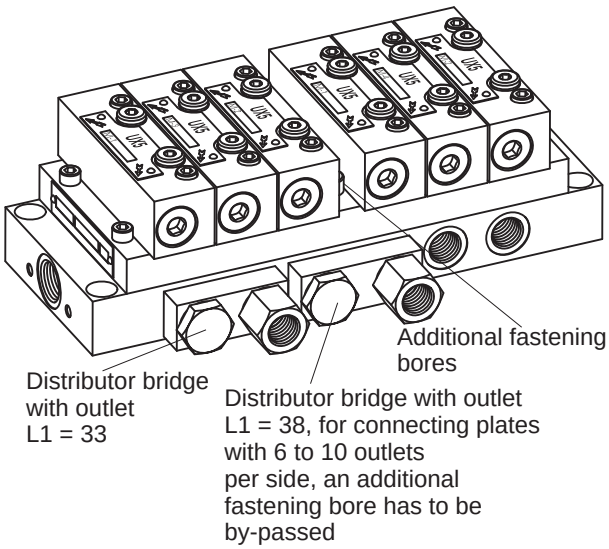
Combination of adjacent outlets

Should the total metering volume of the opposite outlets combined at the progressive distributor be insufficient, at very large bearing points or at main distributors e.g., there is the possibility to combine the metering volume of adjacent outlets.

Distributor bridge with outlet

With the help of distributor bridges with outlet, two, three or four metering volumes of two adjacent lying metering elements can be combined.



Distributor bridge with outlet without non-return valve (=RV)

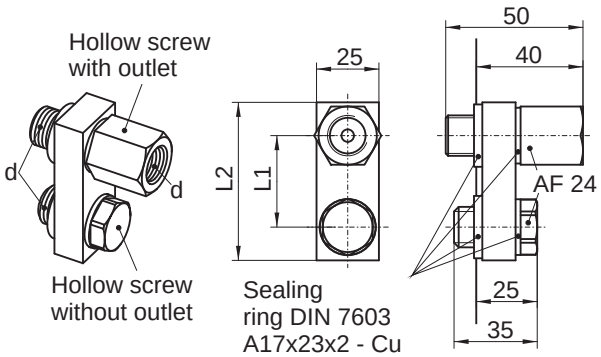


Table of order-no.:

d	L1	L2	RV	Order-no.
G 3/8	33	59	without	4005980030101
G 3/8	38	64	without	4005980030102

Distributor bridge with outlet and a non-return valve RV (in the hollow screw without outlet)

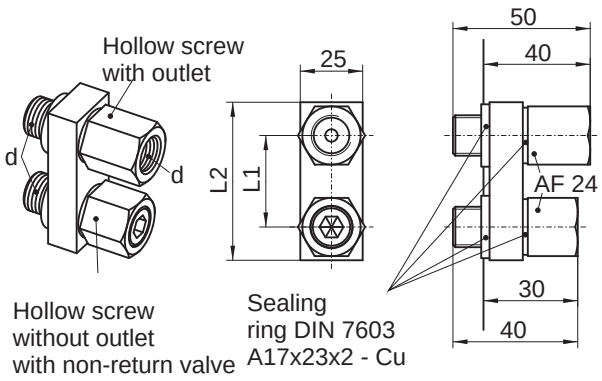


Table of order-no.:

d	L1	L2	RV	Order-no.
G 3/8	33	59	with	4005980040101
G 3/8	38	64	with	4005980040102

Distributor bridge with outlet with non-return valve (RV) in both hollow screws

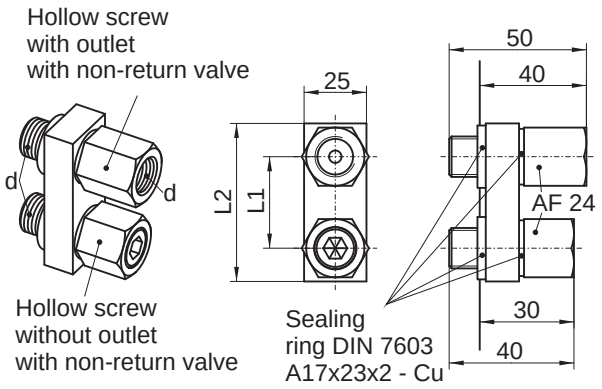


Table of order-no.:

d	L1	L2	RV	Order-no.
G 3/8	33	59	with 2	4005980050101
G 3/8	38	64	with 2	4005980050102

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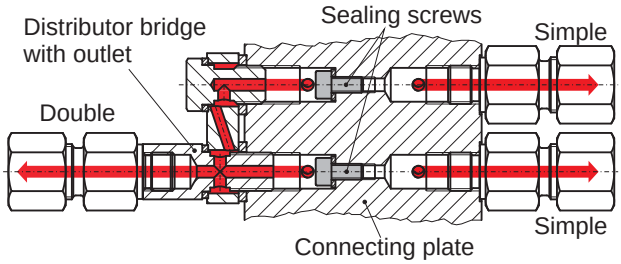
Two metering volumes combined at two adjacent outlets

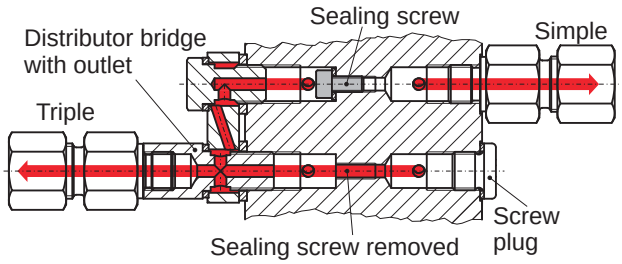
The metering volumes of two adjacent outlets can be combined with the help of a distributor bridge with outlet. To this effect, the outlet fittings of the two outlets to be combined are removed and a distributor bridge with outlet is mounted. The sealing screws between the individual outlets have to be kept.
The metering volumes of the two outlets now come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these two outlets accumulate. Please pay attention that the volume of each metering elements always comes out of the outlet below the previous metering element.



Three metering volumes combined at two adjacent outlets

When three metering volumes of two adjacent outlets shall be combined, the sealing screw and the sealing ring of one of the two concerned pairs of outlets have to be removed. The outlet fittings of the concerned outlets, whose metering volumes are to be combined, are replaced by a distributor bridge with outlet on one side. The outlet opposite to the distributor bridge, of which the sealing screw has been removed, has to be locked with a screw plug and a sealing ring.

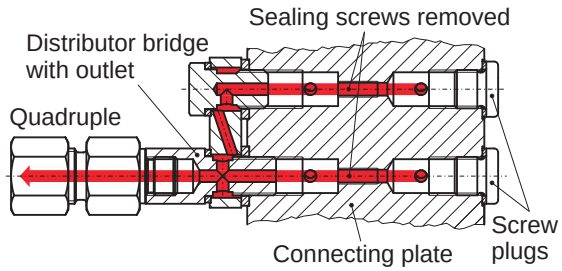
The metering volumes of the three outlets now come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate. Please pay attention that the volume of each metering element always comes out of the outlet below the previous metering element.



Four metering volumes combined at two adjacent outlets

When four metering volumes of two adjacent metering elements should be combined, the sealing screws and sealing rings in both pairs of outlets have to be removed. The outlet fittings of the concerned outlets, whose metering volume are to be combined, are replaced by a distributor bridge with outlet on one side and by screw plugs and sealing rings on the other side.

The metering volumes of the four outlets come out of the outlet of the distributor bridge, i.e. the metering volume code numbers of these outlets accumulate.. Please pay attention that the volume of each metering element always comes out of the outlet below the previous metering element.



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Distributor bridge without outlet

With the help of distributor bridges without outlet, three or four metering volumes of two adjacent metering elements can be combined.

Distributor bridge without outlet without non-return valve (=RV)

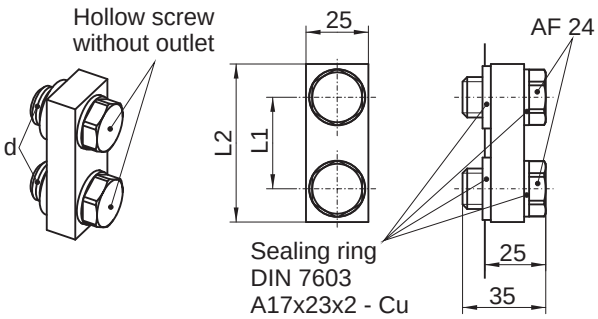


Table of order-no.:

d	L1	L2	RV	Order-no.
G 3/8	33	59	without	4005980010101
G 3/8	38	64	without	4005980010102

Distributor bridge without outlet with a non-return valve (RV)

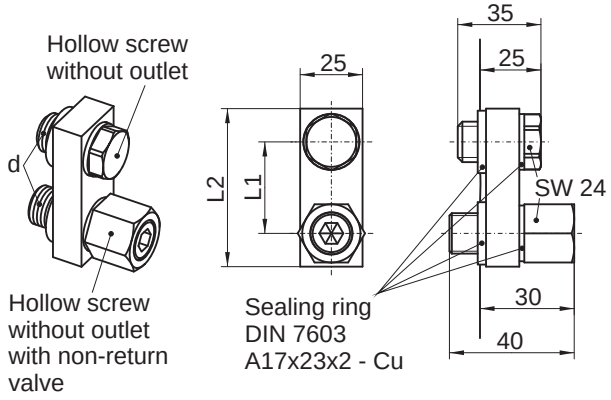


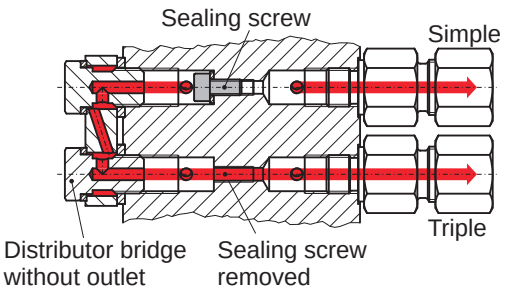
Table of order-no.:

d	L1	L2	RV	Order-no.
G 3/8	33	59	with 1	4005980020101
G 3/8	38	64	with 1	4005980020102

Three metering volumes combined at two adjacent outlets

When three metering volumes of two adjacent metering elements should be combined, the sealing screw and the sealing ring of one of the concerned pairs of outlets have to be removed. The outlet fittings of those outlets are replaced by a distributor bridge without outlet on one side.

The metering volumes of those outlets, which have been locked by the distributor bridge, are now directed through the outlet, of which the sealing screw has been removed.
They come out, together with the concerned outlet's own metering volume i.e. the volumes accumulate. Please pay attention that the volumes of the metering elements come out of the outlets below the previous metering element.



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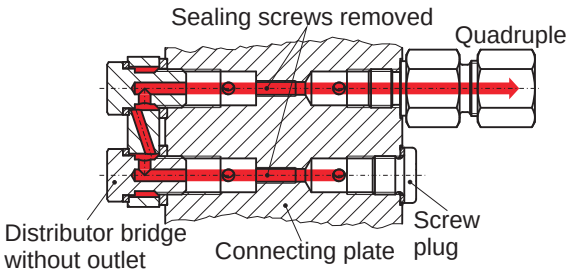
Four metering volumes combined at two adjacent outlets

When all four metering volumes of two adjacent elements should be combined, the sealing screw and the sealing ring of both concerned pairs of outlets have to be removed. The outlet fittings of the concerned outlets are replaced by a distributor bridge without outlet on one side. On the other side, a screw plug and a sealing ring have to be screwed into an outlet.

All outlets' metering volumes now come out of the remaining outlet, i.e. the metering volume code numbers accumulate. Please pay attention that the metering elements' volumes each come out of the outlet below the previous metering element.



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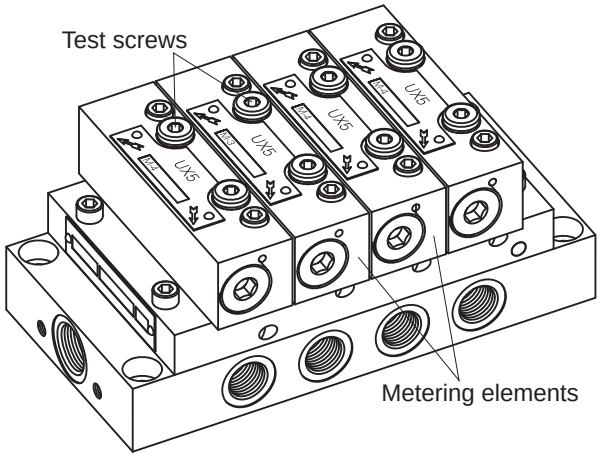
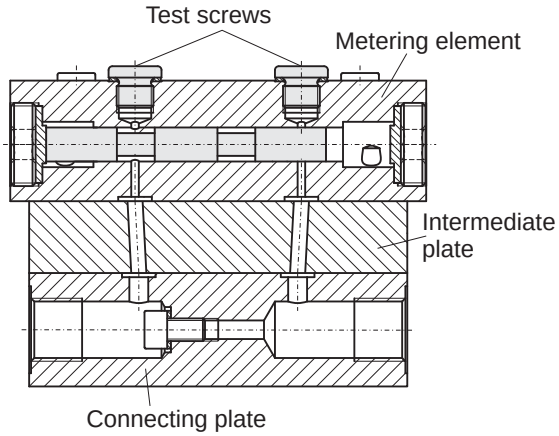
Blockade test

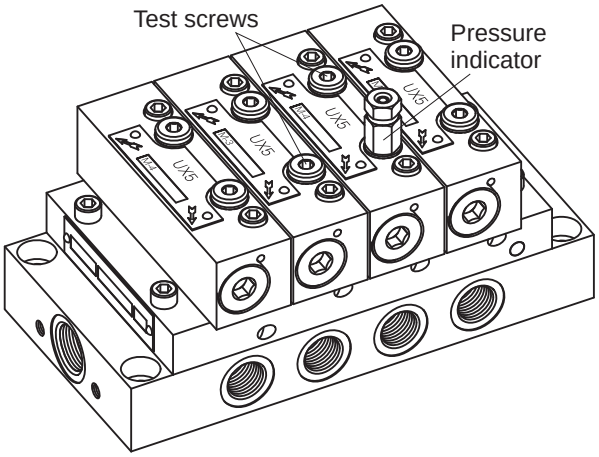


When it comes to a stop of the progressive distributor due to a blocked lubricant line, the blocked point can quickly be found by opening the test screws in the metering elements. The lubricant can come out of the screw which is above the blocked outlet and the progressive distributor operates again.
It is important that the metering volume of each metering element always comes out at the outlet below the previous metering element, in the direction of the distributor inlet.



Pressure indicator

Instead of the test screws, pressure indicators can also be installed.



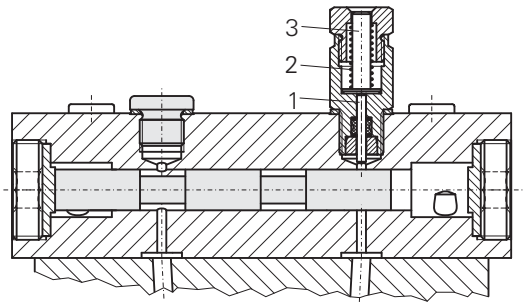
The pressure indicator serves for the localization of locked lubrication lines or blocked progressive distributors.

Installation:

- Remove the test screw.
- Screw in the pressure indicator.

Functional description:

When the pressure increases, the pin (1) is pushed out against the spring force (2) and the indicator pin (3) becomes visible. When the pressure is reduced, the spring (2) pushes the indicator pin (3) back again.



See order numbers and installation dimensions under “Accessory progressive distributors”.

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Elements with proximity switches

For monitoring the system or for the use of cycle controls for counting the piston strokes, proximity switches can be attached to progressive distributors UX-5.

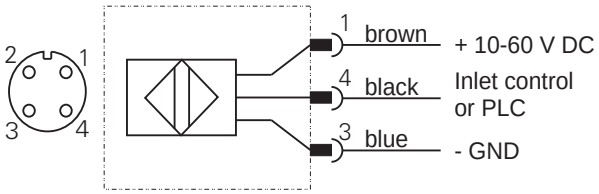
Three different proximity switches are available (see table). When further indications are missing, the proximity switch M18x1 is attached to the last element on the right side. Installation on the left or of another proximity switch has to be indicated separately.

Metering elements with proximity switches have to be indicated with the order, as a later installation of a proximity switch to an existing metering element is not possible.

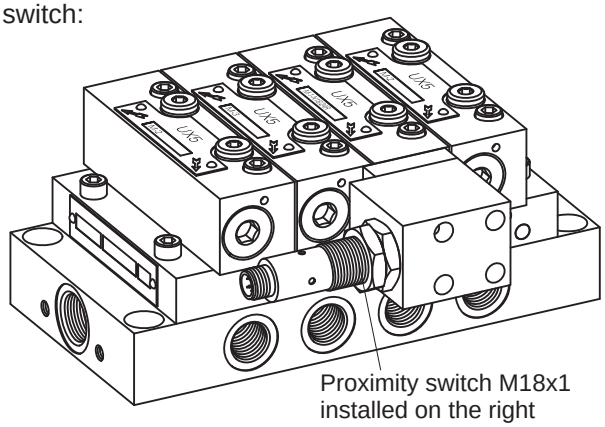
Proximity switches can only be retrofitted at a progressive distributor by exchanging the corresponding metering element.

The proximity switch is delivered without cable, this has to be ordered separately (see “Accessory progressive distributor”)

Terminal diagram:



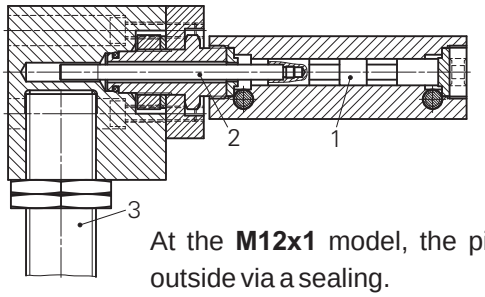
Progressive distributor UX-5 with attached proximity switch:



Proximity switch M18x1 installed on the right

Functional description:

A pin (2) is fixed at the metering element’s piston (1). It approaches the proximity switch (3) with each piston stroke and initiates a signal. This signal can be, depending on the type of control or the individual case, evaluated differently.



At the **M12x1** model, the pin is led outside via a sealing.

At the model **M18x1** / **M30x1,5** (see section), the pin (2) works leakage free in the medium.

Size	**M12x1** (special version)	**M18x1** (standard)	**M30x1,5** (special version)
Connection	plugable M12x1		
Switch type	PNP NO		
Current load	200 mA		
Voltage	10 to 60 V DC		
perm. ambient temperature	-40 °C to 85 °C		
Function indication	LED yellow		
Material	stainless steel		
Protection class	IP 67 / IP 69K		
Metering elements	UX-5 M1 to M4		
Spare part order-no.	100091865	1000912586	1000912587

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Installation dimensions for a proximity switch M12x1:

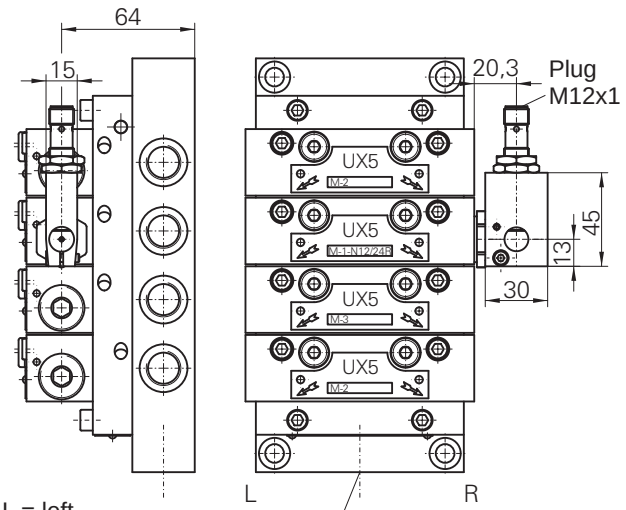

Table of order-no. for a metering element with proximity switch M12x1 (special model):

Metering element with NS M12x1	Pos.	Order-no.
UX-5 M1 N12/24 R	right	3986981N12/24R
UX-5 M1 N12/24 L	left	3986981N12/24L
UX-5 M2 N12/24 R	right	3986982N12/24R
UX-5 M2 N12/24 L	left	3986982N12/24L
UX-5 M3 N12/24 R	right	3986983N12/24R
UX-5 M3 N12/24 L	left	3986983N12/24L
UX-5 M4 N12/24 R	right	3986984N12/24R
UX-5 M4 N12/24 L	left	3986984N12/24L

Installation dimensions for a proximity switch M18x1:

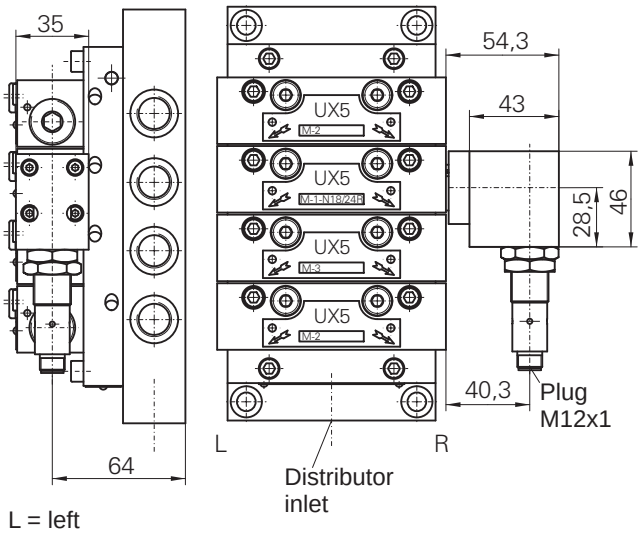

Table of order-no. with proximity switch M18x1 (standard):

Metering element mit NS M18x1	Pos.	Order-no.
UX-5 M1 N18/24 R	right	3986981N18/24R
UX-5 M1 N18/24 L	left	3986981N18/24L
UX-5 M2 N18/24 R	right	3986982N18/24R
UX-5 M2 N18/24 L	left	3986982N18/24L
UX-5 M3 N18/24 R	right	3986983N18/24R
UX-5 M3 N18/24 L	left	3986983N18/24L
UX-5 M4 N18/24 R	right	3986984N18/24R
UX-5 M4 N18/24 L	left	3986984N18/24L

Installation dimensions for a proximity switch M30x1,5:

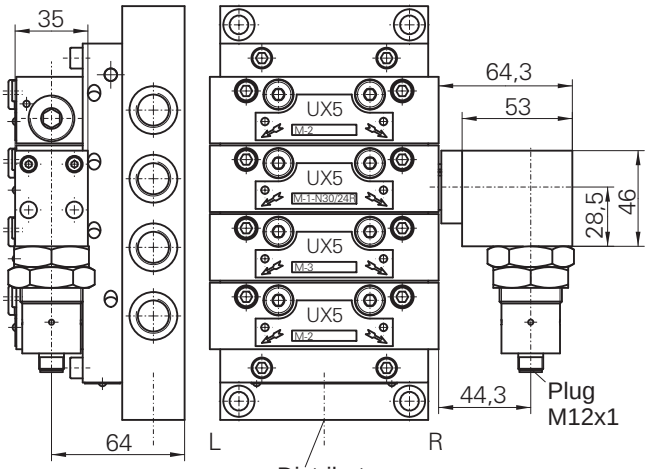

Table of order-no. for a metering element with proximity switch M30x1,5 (special model):

Metering element with NS M30x1,5	Pos.	Order-no.
UX-5 M1 N30/24 R	right	3986981N30/24R
UX-5 M1 N30/24 L	left	3986981N30/24L
UX-5 M2 N30/24 R	right	3986982N30/24R
UX-5 M2 N30/24 L	left	3986982N30/24L
UX-5 M3 N30/24 R	right	3986983N30/24R
UX-5 M3 N30/24 L	left	3986983N30/24L
UX-5 M4 N30/24 R	right	3986984N30/24R
UX-5 M4 N30/24 L	left	3986984N30/24L

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Elements with visual stroke control

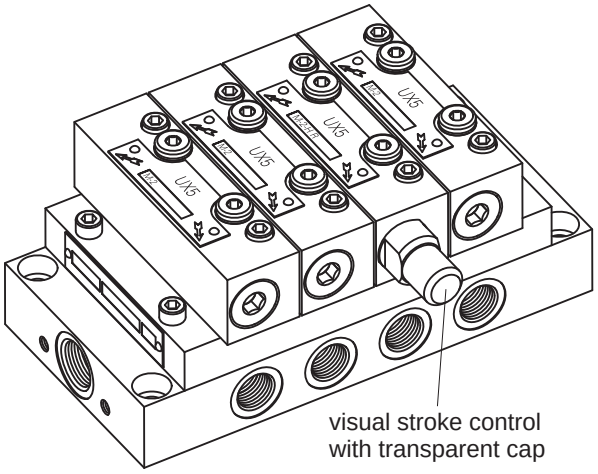
Instead of the proximity switch, a visual stroke control can be attached to the UX-5 distributor.

The visual stroke control can optionally be mounted to all metering elements of the UX-5, however as a standard it is installed on the right side.

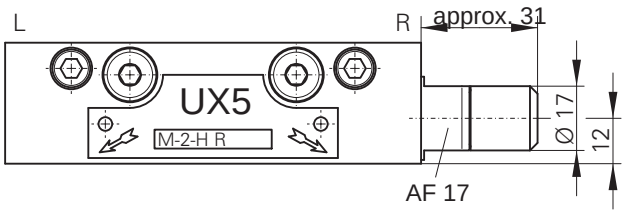
The visual stroke control has to be considered when the order is placed, a later installation to an existing metering element is not possible.

Table of order-no. for a metering element UX-5 with visual stroke control:

Metering element w. visual stroke control	Pos.	Order-no.
UX-5 M1 H R	right	3986981H00R
UX-5 M1 H L	left	3986981H00L
UX-5 M2 H R	right	3986982H00R
UX-5 M2 H L	left	3986982H00L
UX-5 M3 H R	right	3986983H00R
UX-5 M3 H L	left	3986983H00L
UX-5 M4 H R	right	3986984H00R
UX-5 M4 H L	left	3986984H00L

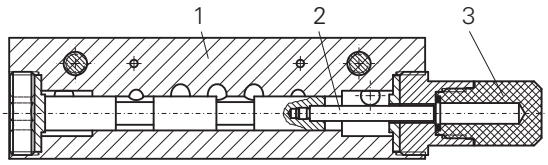


Installation dimensions:



Functional description:

A pin (2) is fixed at the metering element's piston (1).This appears in the transparent cap (3) with each piston stroke.



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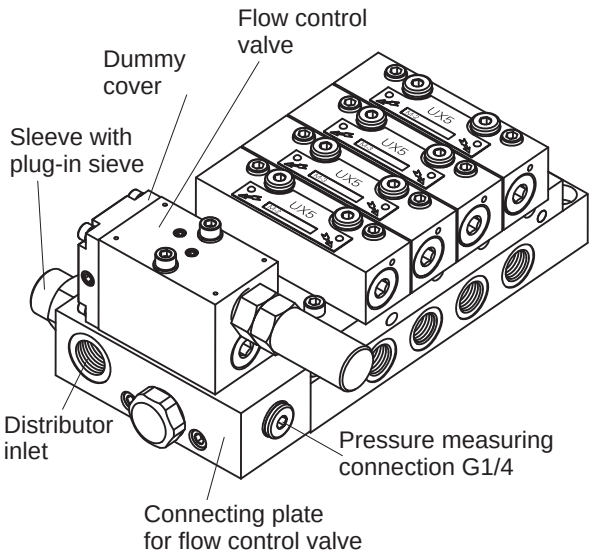
Special accessory flow control valve

A flow control valve can also be attached to a distributor UX-5. To this effect, a connecting plate is screwed before the inlet of the progressive distributor. The flow control valve is then fixed on that plate.

The flow control valve serves for adjusting the volume of the supplied lubricant.

At machines with shock-wise movements, the distributor should be installed crosswise to the

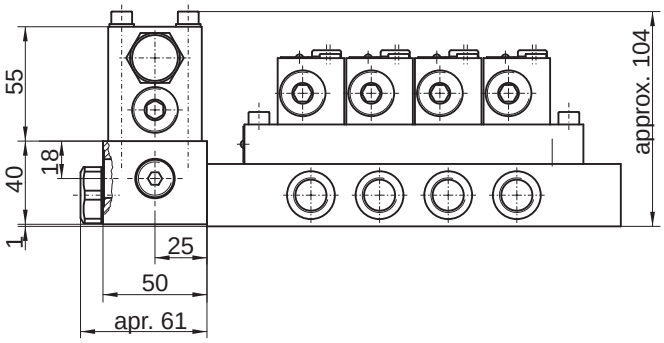


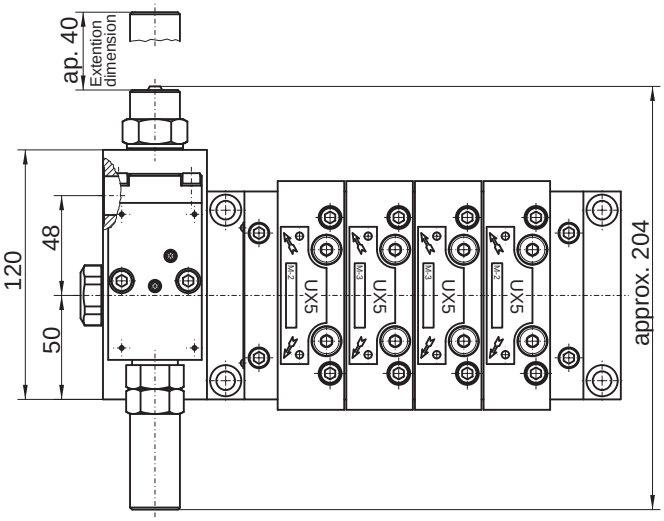
Technical data of the volume flow control valve:

Operating pressure:	10 to 250 bar
Pressure loss (Dp):	7 bar
Lubricant:	oils on synthetic a. mineral base
Viscosity range:	10 to 1000 mm²/s
Temperature range:	0 °C to 60 °C
Volume flow rate:	0,1 to 8 l/min.
Installation position:	depending on progressive distributor
Material:	steel, barnished

A lubricant volume flow of 6 l/min must not be exceeded.

Installation dimensions with flow control valve:





Order number

Conn. plate f. distributor	with plug-in sieve (wire gauze filter)	Order-no.
UX-5	MW* 0,1 mm	40620201
UX-5	MW* 0,3 mm	40620202

* MW = Maschenweite = mesh size

Spare part plug-in sieve (wire gauze filter)	Order-no.
MW* 0,1 mm	04410057
MW* 0,3 mm	04410064

* MW = Maschenweite = mesh size

See functional description of the flow control valve and order-no. under “Accessory circulating lubrication systems”.

A **monitoring element (volume flow control)** can be mounted to a flow control valve (see “Accessory circulating lubrication systems”).

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Adjustment of the distributor

Progressive distributors UX-5 can be adjusted to the application conditions.

If lubrication points become unnecessary, a metering element can be replaced by a dummy element.

If lubrication points should be added, an existing dummy element can be replaced by a metering element.

When the metering volume is altered, the metering elements can be exchanged.

Exchange of a metering element with another metering element or with a dummy element:

- Remove the head cap screws
- Replace the existing metering- or dummy element by a new metering- or dummy element.
- Screw in the head cap screws again
- When a dummy element is installed, lock the outlets below the dummy element each with a screw plug and a sealing ring.

Note: **Please pay attention to utmost cleanness when working at the distributors.**

Note: **A UX-5 distributor has to consist of at least three metering elements.**

Should it be the case that one of the O-rings, which are used for the sealing between the metering elements and the intermediate plate, is damaged and does not seal any more, those O-rings can be reordered in sets, (see “metering elements” of the

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Order-key

Connecting plates for special accessory

Flow control valves can be attached as special accessory to UX-5 distributors.

Special access.	Designation
00	without special accessories
MB	flow control valve
MB2	limiting device

Distributor inlet

The progressive distributor UX-5 can be delivered with or without fitting. If the fittings should be delivered already installed into the distributor, they have to be marked with the pipe diameter and the series L:

Inlet	Designation
G1/2	without fitting
GE08L	male stud coupling, pipe-Ø 8, 10, 12 or 15, series L
GE10L	
GE12L	
GE15L	

The fittings can also be ordered separately (see “Accessories progressive distributor” or “Fittings and accessories”).

When there is no indication concerning the fittings, delivery is without fitting as standard!

Distributor outlet

The fitting type at the distributor outlets has to be indicated with diameter and the series L, when being ordered.

Outlets	Designation
G3/8	without fitting
GE06L	male stud coupling, pipe-Ø 6, 8, 10 or 12, series L
GE08L	
GE10L	
GE12L	
RGE06L	non-return valve pipe-Ø 6, 8, 10 or 12, series L
RGE08L	
RGE10L	
RGE12L	

Metering volume

The metering code numbers **1** to **4** (see table “Technical description”) of the metering elements have to be indicated according to the metering elements’ position as well as in the order in which the lubricant comes out on each side, always seen from the distributor inlet and have to be separated by a **slash** (/). For distributor bridges a **plus** (+) instead of the slash has to be indicated.

The dummy elements have to be marked with **00** when the position is indicated in the order key.

At combined outlets, the metering code numbers accumulate (see “Combination of outlets”).

Screw plugs and outlets which are locked by distributor bridges are marked with a **line** (--). Sealing screws which have to be removed have to be marked with a **star** (*) in the drawing.

Proximity switch

Three different proximity switches are available:

NS	Designation
N12/24	proximity switch M12x1
N18/24	proximity switch M18x1 (Standard)
N30/24	proximity switch M30x1,5

For other proximity switches, the thread diameter of the proximity switch has to be indicated after the code letter **N** and after the **slash** (/) the proximity switch’s voltage.

The installation position of the proximity switch has to be marked with **NS** on the right or on the left, as desired, after the metering code number of the metering element.

R =right
L = left

Without an indication regarding the installation position, the proximity switch as standard is mounted on the right side at the last element.

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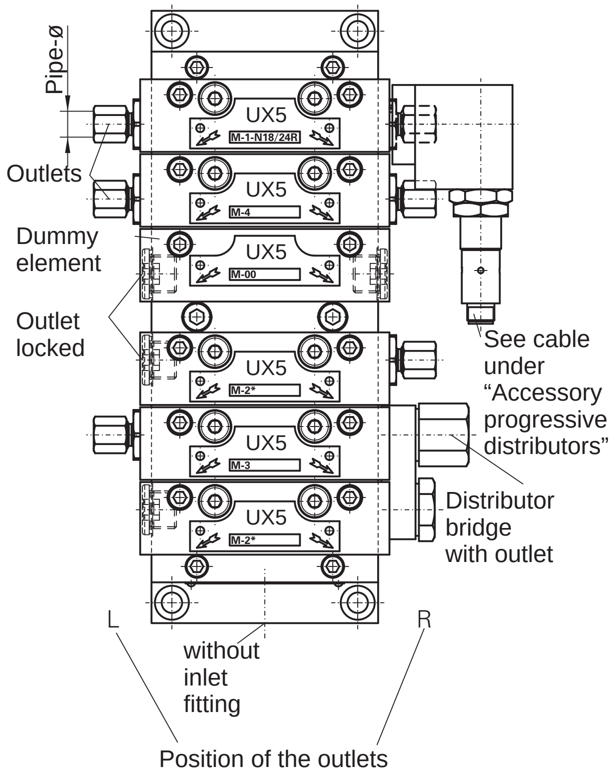
Order example



* Sealing screw removed

Type	UX-5 00 06 / 07 - G1/2 / RGE06L N18/24		2 /	3 /	2 /	00 /	4 /	1
Special access.		R	--- +	8 /	8 /	--- /	1 /	2 NS
No. of metering / dummy elements		L	--- /	2 /	--- /	--- /	1 /	2
No. of outlets								
Inlet fitting								
Outlet fitting								
Thread diameter of proximity switch								
Voltage								
Position of metering / dummy elem. (at outlet)								
Connection position								
Metering code-no. at outlet								

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Description

The pressure indicator locates locked lubrication point lines or blocked progressive distributors.

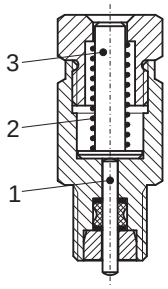
The pressure indicator can any time be retrofitted.

The pressure indicators can be ordered for different pressure ranges (see table). This is effected by the installation of different springs (2).

The indicator pins (3) are marked with different colors and each color is assigned to a pressure indicator value (see table).

Functional description

When pressure increases, the pin (1) is pressed out against the spring (2) power and the pin becomes visible. When pressure is reduced again, the spring (2) presses back the pin (3).



With Swivelling screw fitting

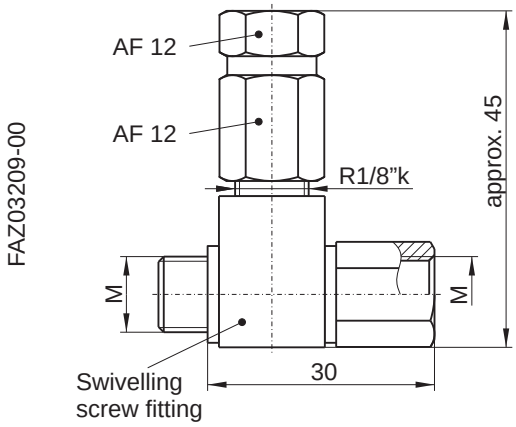
It can be installed in the distributor inlet, as well as in the outlets.

Installation

The pressure indicator is screwed into a swivelling screw fitting and this one into a distributor. The connection fitting has to be installed into a swivelling screw fitting.

Pressure indicator with swivelling screw fitting for distributors MX-F, SX-1, SX-2 and SXE-2

The pressure indicator with swivelling screw fitting acc. to drawing FAZ03209-00 can only be installed into the distributors MX-F, SX-1, SX-2 and SXE-2 (at SXE-2 only in outlet G 1/8).

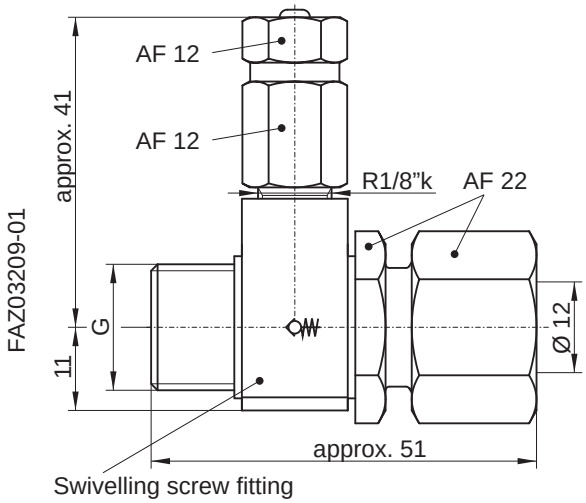


Order-no. of the pressure indicator with swiveling fitting according to FAZ03209-00:

Pressure (bar)	Color	Thread M	Order-no.
30	silver	M10x1	4045 00010003
		G 1/8	4045 00010004
50	red	M10x1	4045 00020003
		G 1/8	4045 00020004
70	white	M10x1	4045 00030003
		G 1/8	4045 00030004
100	yellow	M10x1	4045 00040003
		G 1/8	4045 00040004
150	black	M10x1	4045 00050003
		G 1/8	4045 00050004
200	green	M10x1	4045 00060003
		G 1/8	4045 00060004
250	blue	M10x1	4045 00070003
		G 1/8	4045 00070004

Pressure indicator with swivelling screw fitting for distributor SX-5, UX, SXE-2 and SXE-3.

The pressure indicator with swivelling screw fitting according to drawing FAZ03209-01 can only be installed into the distributors SX-5, UX (only in outlet), SXE-2 (only in outlet) and SXE-3



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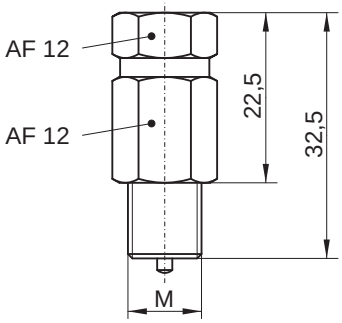
Order key (Pressure indicator with swivelling fitting acc. to FAZ03209-01)

404506 12 04 200

Type-no.	4045						
Code	404506						
Pipe connection	Ø 12						
Code - with integr. non return valve	12						
Code - without non return valve	22						
Thread G	G 1/4		G 3/8				
Code	03		04				
Operating pressure (bar)	30	50	70	100	150	200	250
Code	030	050	070	100	150	200	250

For distributor UX-5

The pressure indicator can be installed instead of the test screws at the UX-5-distributors.



Order-number for UX-5 pressure indicator:

Pressure (bar)	Color	Thread M	Order-no. Pressure indic.
30	silver	R 1/8”k	4045000100
50	red	R 1/8”k	4045000200
70	white	R 1/8”k	4045000300
100	yellow	R 1/8”k	4045000400
150	black	R 1/8”k	4045000500
200	green	R 1/8”k	4045000600
250	blue	R 1/8”k	4045000700

Pressure indicator for SX-4 and SXD

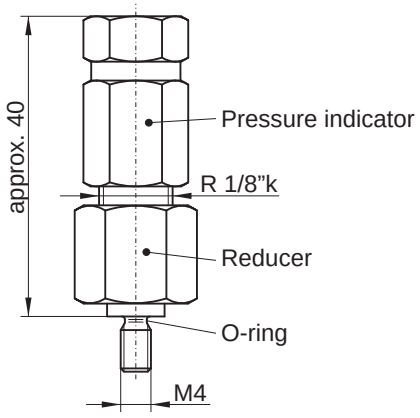
Like for the UX-5-distributors, the pressure indicator can here also be installed instead of the test screws but a reducing fitting is necessary. The sealing is effected by an O-ring.

Installation

- Remove the test screw and the sealing ring from the distributor
- Insert the O-ring and screw in the reducing socket
- Screw the pressure indicator into the reducing fitting

Order-number

Reducing fitting G 1/8 - M4: F0408/31-00
O-ring 2,9 x 1,78: 09037710022181
Pressure indicator:
see pressure indicator for UX-5



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Pressure indicator

The pressure indicator with memory stick locates locked lubrication point lines or blocked progressive distributors.

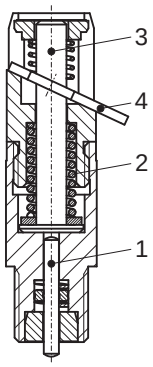
It can be retrofitted at any time.

The pressure indicators with memory stick can be ordered for different pressure ranges (see table). This is effected by the installation of different springs (2).

The indicator pins (3) are marked with different colors and each color is assigned to a pressure range (see table).

Functional description

If the pressure increases, the pin (1) is pressed out against the spring force (2) and the indicator pin (3) is visible. The clamping lever (4), prevents the indicator pin (3) from being back pressed by the spring (2). As soon as the malfunction is eleminated, the clamping lever must be raised, so that the indicator pin (3) is pressed back.

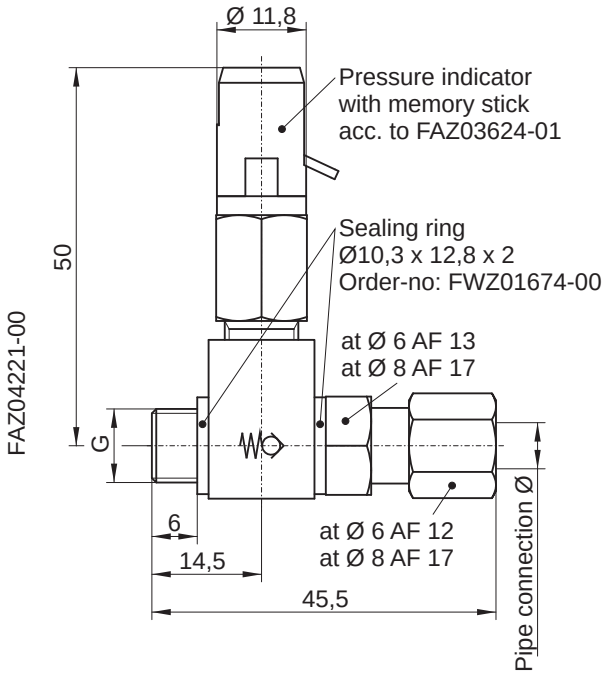


Pressure indicator with memory stick and swiveling fitting

It can be installed in the distributor inlet, as well as in the outlets.

Installation

The pressure indicator with memory stick is screwed into a swiveling fitting and this one into a distributor. The connection fitting has to be installed into a swiveling fitting.



Order key (pressure indication with memory-stick with swivelling screw fitting)

404502 06 01 150

Type-no.	4045						
Code-no.	404502						
Pipe connection	Ø 6		Ø 8				
Code-no. - with integrated non-return val.	06		08				
Code-no. - without non-return valve	16		18				
Thread G	G 1/8		M10x1				
Code-no.	01		02				
Operating pressure (bar)	30	50	70	100	150	200	250
Code-no.	030	050	070	100	150	200	250

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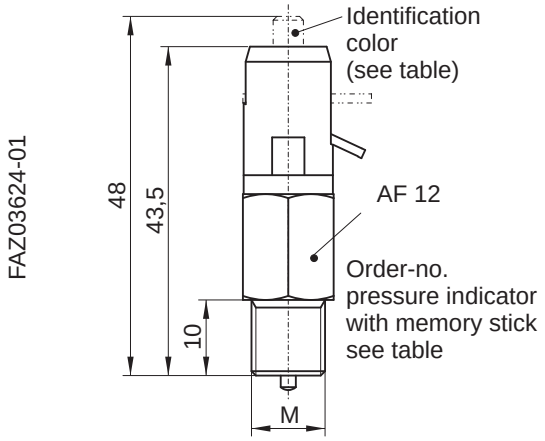
Pressure indicator with memory stick for distributor UX-5

The pressure indicator with memory stick can be installed instead of the test screws at the UX-5-distributors.



Order-number pressure indicator with memory stick for UX-5:

Pressure (bar)	Color	Thread M	Order-no. Press. indicator
30	silver	R 1/8”k	4045010100
50	red	R 1/8”k	4045010200
70	white	R 1/8”k	4045010300
100	yellow	R 1/8”k	4045010400
150	black	R 1/8”k	4045010500
200	green	R 1/8”k	4045010600
250	blue	R 1/8”k	4045010700

Pressure indicator with memory stick for SX-4 and SXD distributors

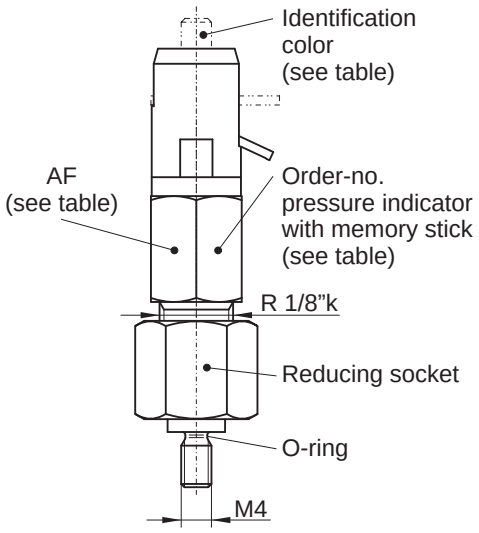
Like for the UX-5-distributors, the pressure indicator with memory stick can here also be installed instead of the test screws but a reducing fitting is necessary. The sealing is effected by an O-ring.

Installation

– Remove the test screw and the sealing ring from the distributor
– Insert the O-ring and screw in the reducing socket
– Screw the pressure indicator with memory stick into the reducing fitting

Order-number

Reducing fitting G 1/8 - M4: F0408/31-00
O-ring 2,9 x 1,78: 09037710022181
Pressure indicator with memory stick:
see pressure indicator with memory stick for UX-5



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Description

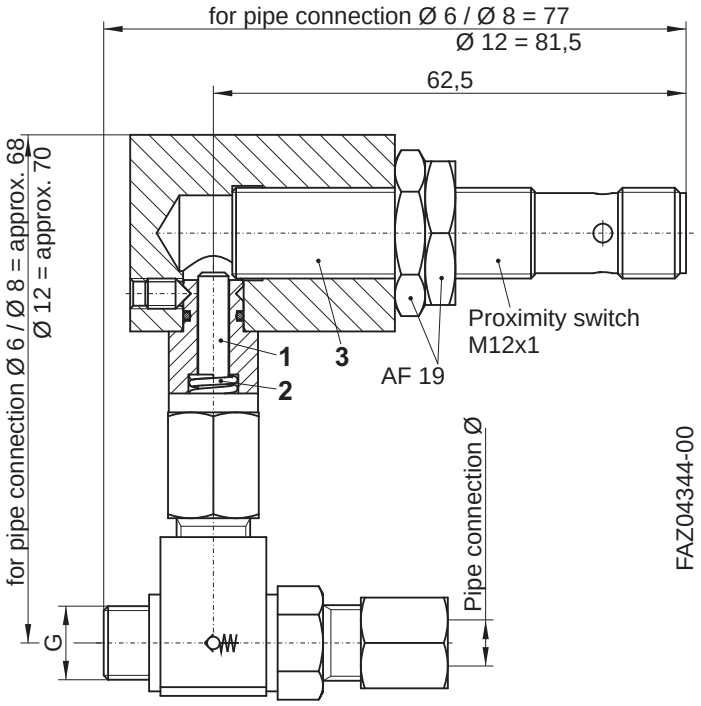
The pressure monitoring localizes, just as the pressure indicator, locked lube point lines or blocked progressive distributors. The proximity switch recognizes the changed position of the pin (1) caused by the pressure increase and sends a signal to the control unit.

The pressure monitoring can be retrofitted at any time.

The pressure monitoring can be ordered for different pressure ranges (see order key). This is achieved by the installation of different springs (2).

Functional description

As soon as the pressure increases, the pin (1) is pressed out against the spring force. This approaches to the proximity switch (3) and initiates a signal. The signal can be evaluated acc. to control unit type or individual. When the pressure is reduced, the spring (2) presses back the pin (1).



Order key (pressure monitoring)

404503 08 03 200

Type-no.	4045						
Code	404503						
Pipe connection	Ø 6		Ø 8		Ø 12		
Code - with integr. non-return valve	06		08		12		
Code - without non-return valve	16		18		22		
Thread G	G 1/8		M10x1		G 1/4		G 3/8
Code	01		02		03		04
Operating pressure (bar)	30	50	70	100	150	200	250
Code	030	050	070	100	150	200	250

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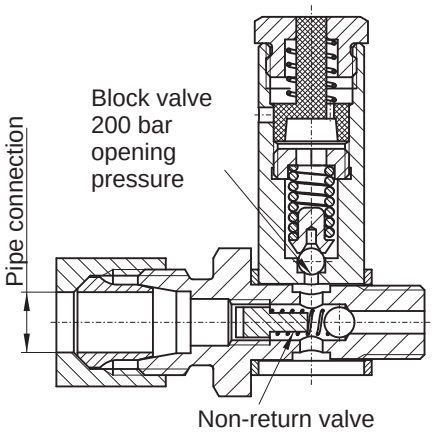
Blockade control

When the progressive distributor blocks because of a locked lubrication point line, the pressure increases, the pin is pushed through the lubricant against the spring force and becomes visible. The lubricant comes out of the opening of the blockade control and the progressive distributor operates again.

Note: When oil is used, the pin returns into its normal position after the lubricant has come out.



Dimensions

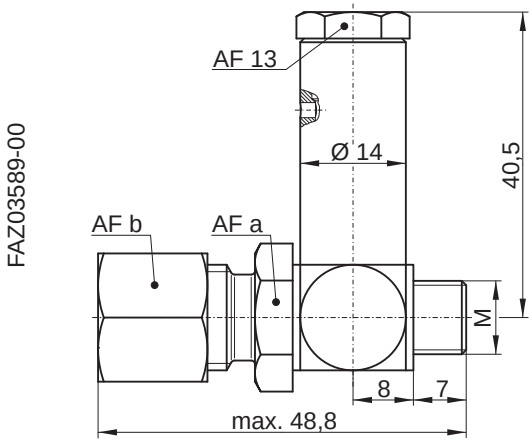


Table order-no.

Pipe conn.	Thread M	AF a	AF b	Order-no.
Ø 6	M10x1	13	12	4010960100001
Ø 6	G 1/8	13	12	4010960100002
Ø 8	M10x1	17	17	4010960100003
Ø 8	G 1/8	17	17	4010960100004

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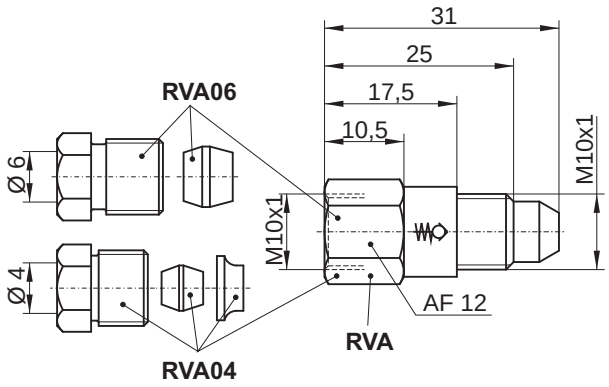
At higher counter-pressures and at main distributors, the non-return valves have to be installed into each outlet.

Non-return valve (= RV) for progressive distributor MX-F and MX-I

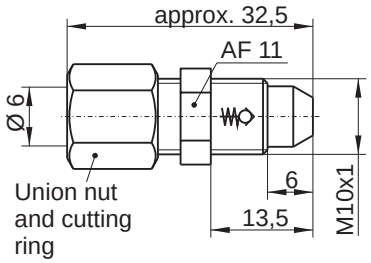
Non-return valve for olive and union screw

Distr.	Material	RV	Order-no.
MX-F	steel galvanized	RVA	4010960040000
		RVA04	4010960040010
		RVA06	4010960040011
MX-I	V4A (1.4404)	RVA	4010960040009
		RVA06	4010960040013



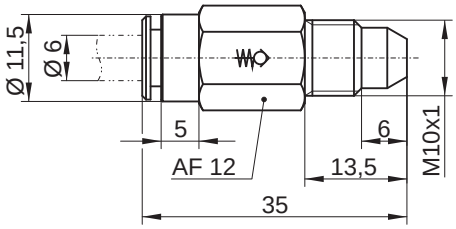
Non-return valve with union nut and cutting ring for pipe -Ø 6, series LL

Distr.	Material	RV	Order-no.
MX-F	steel, yellow galvanized	RVB06	0438000179
MX-I	V2A (1.4305)	RVB06	0438000314



Non return valve plug model for pipe -Ø 6

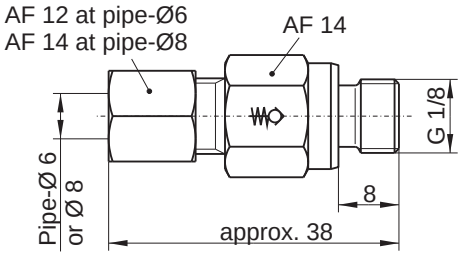
Distr.	Material	RV	Order-no.
MX-F	brass, nickle plat.	plug-type version	4010960040012



Non-return valves for progressive distributors of different types

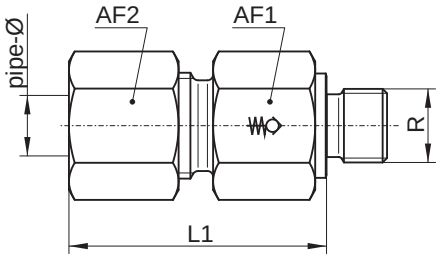
Non-return valves of the series LL for pipes -Ø 6 or 8 mm with olive.

Non-return valve	Order-no.
Ø 6 LL	0438000064
Ø 8 LL	0438000063



Non-return valves of the series L with union nut and cutting ring acc. to DIN 2353 (standard)

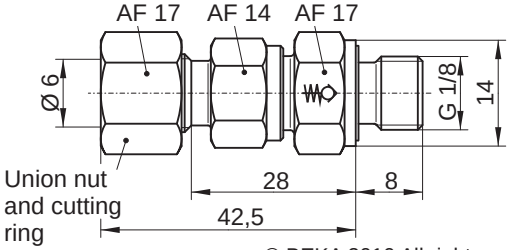
Pipe-Ø	R	AF1	AF2	L1	Order-no.
6	G 1/8	14	14	34	0438000164
8	G 1/8	14	17	34	0438000148
6	G 1/4	17	14	30	0438000138
8	G 1/4	17	17	30	0438000137
10	G 1/4	19	19	42	0438000396
12	G 1/4	19	22	43	0438000397
6	G 3/8	24	14	30	0438000425
8	G 3/8	22	17	30	0438000139
10	G 3/8	22	19	30	0438000140
12	G 3/8	24	22	43	0438000241



Non-return valve (= RV) for progressive distributor SX-3

Non-return valve of series L for pipe -Ø 6 with union nut and cutting ring

Distr.	Material	RV	Order-no.
SX-3	V4A (1.4571)	Ø 6 L	0438000301



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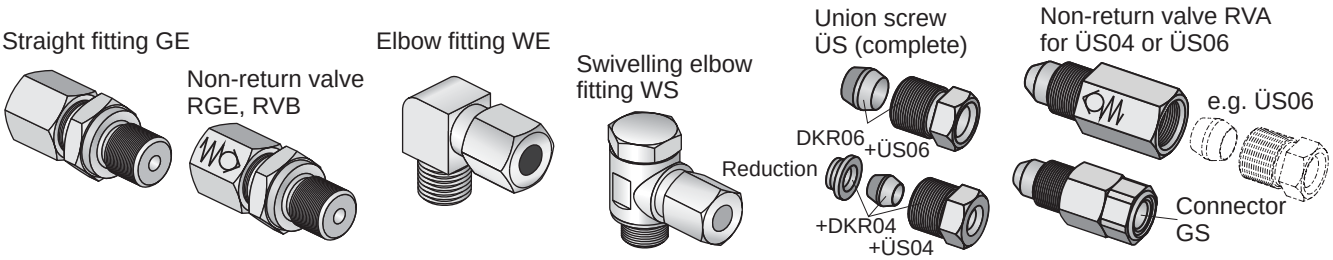

See dimensions of the non-return valve under "Accessories progressive distributors", see dimensions of the fittings under "Fittings and accessories".

Designation	Thread	Pipe-Ø	Series	Order-no.
Progressive distributor MX-F				
Male stud coupling (at inlet)				
GE06LL	M10x1	6	LL	04012000306
GE08LL	M10x1	8	LL	04012020306
Elbow screw fittings (at inlet)				
WE06LL	M10x1k	6	LL	04012200306
WE08LL	M10x1k	8	LL	04012220306
Elbow swivelling screw fittings (at inlet)				
WS06LL	M10x1	6	LL	04013200206LL
WS08LL	M10x1	8	LL	04013220206LL
Union screw (at outlet) complete				
ÜS04	M10x1	4		4010960080000
ÜS06	M10x1	6		4010960070000
Plug-type connection (at outlet)				
GS04	M10x1	4		FAZ03605-01
GS06	M10x1	6		FAZ03605-00
Non-return valves (at outlet)				
RVA	M10x1	-		4010960040000
RVA04	M10x1	4		4010960040010
RVA06	M10x1	6		4010960040011
RVB06	M10x1	6	LL	0438000179
Progressive distributor MX-I				
Attention: all fittings V4A				
Male stud coupling (at inlet)				
GE06L	M10x1	6	L	04012000213
Elbow screw fittings (at inlet)				
WE06L	M10x1k	6	L	04012200313
WE08L	M10x1k	8	L	04012220313
Elbow swivelling screw fittings (at inlet)				
WS06L	M10x1	6	L	04013200213
Union screw (at outlet) complete				
ÜS06	M10x1	6		4010960070001
Non-return valves (at outlet)				
RVA	M10x1	-		4010960040009
RVA06	M10x1	6		4010960040013
RVB06	M10x1	6	LL	0438000314

Designation	Thread	Pipe-Ø	Series	Order-no.
Progressive distributor SX-1, SX-2				
Male stud coupling (at inlet and outlet)				
GE06LL	G 1/8	6	LL	04012000906
GE08LL	G 1/8	8	LL	04012020906
GE06L	G 1/8	6	L	04012000906L
Non-return valves (at outlet)				
RGE06LL	G 1/8	6	LL	0438000064
RGE08LL	G 1/8	8	LL	0438000063
RGE06L	G 1/8	6	L	0438000164
RGE08L	G 1/8	8	L	0438000148
Progressive distributor SX-3 - V4A				
Male stud coupling (inlet / outlet)				
GE06LL	G 1/8	6	LL	04012000913LL
GE08LL	G 1/8	8	LL	04012020913
GE06L	G 1/8	6	L	04012000913
Non-return valves (at outlet)				
RGE06L	G 1/8	6	L	0438000301
Progressive distributor UX, UX-5				
Male stud coupling (at inlet)				
GE08L	G 1/2	8	L	04012021606
GE10L	G 1/2	10	L	04012031606
GE12L	G 1/2	12	L	04012041606
GE15L	G 1/2	15	L	04012051606
Male stud coupling (at outlet)				
GE06L	G 3/8	6	L	04012001406
GE08L	G 3/8	8	L	04012021406
GE10L	G 3/8	10	L	04012031406
GE12L	G 3/8	12	L	04012041406
Non-return valves (at outlet)				
RGE06L	G 3/8	6	L	0438000425
RGE08L	G 3/8	8	L	0438000139
RGE10L	G 3/8	10	L	0438000140
RGE12L	G 3/8	12	L	0438000241
Elbow swivelling screw fittings only for **UX** (at outlet)				
WS12L	G 3/8	12	L	04013241406
WS10S	G 3/8	10	S	04013231406

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Designation	Thread	pipe-Ø	series	Order-no.
Progressive distributor SXE-2				
Male stud coupling (at inlet)				
GE06L	G 1/4	6	L	04012001006L
GE08L	G 1/4	8	L	04012021006
GE10L	G 1/4	10	L	04012031006
GE12L	G 1/4	12	L	04012041006
Elbow screw fittings (at inlet)				
WE08L	R 1/4"k	8	L	04012220806
WE10L	R 1/4"k	10	L	04012230806
Elbow swivelling screw fittings (at inlet)				
WS08L	G 1/4	8	L	04013221006
WS10L	G 1/4	10	L	04013231006
Male stud coupling (at outlet)				
GE06LL	G 1/8	6	LL	04012000906
GE08LL	G 1/8	8	LL	04012020906
GE06L	G 1/8	6	L	04012000906L
Non-return valves (at outlet)				
RGE06LL	G 1/8	6	LL	0438000064
RGE08LL	G 1/8	8	LL	0438000063
RGE06L	G 1/8	6	L	0438000164
RGE08L	G 1/8	8	L	0438000148
Progressive distributor SX-5, SXE-3				
Male stud coupling (at inlet)				
GE06L	G 3/8	6	L	04012001406
GE08L	G 3/8	8	L	04012021406
GE10L	G 3/8	10	L	04012031406
GE12L	G 3/8	12	L	04012041406
GE15L	G 3/8	15	L	04012051406
Elbow swivelling screw fittings only for **SXE-3** (at inlet)				
WE12L	R 3/8"k	12	L	04012243306
Elbow swivelling screw fittings only for **SXE-3** (at inlet)				
WS12L	G 3/8	12	L	04013241406
Male stud coupling (at outlet)				
GE06L	G 1/4	6	L	04012001006L
GE08L	G 1/4	8	L	04012021006
GE10L	G 1/4	10	L	04012031006
GE12L	G 1/4	12	L	04012041006
Non-return valves only for **SXE-3** (at outlet)				
RGE06L	G 1/4	6	L	0438000138
RGE08L	G 1/4	8	L	0438000137
RGE10L	G 1/4	10	L	0438000396
RGE12L	G 1/4	12	L	0438000397

Designation	Thread	pipe-Ø	series	Order-no.
Progressive distributor SXD				
Male stud coupling (at inlet and outlet)				
GE06L	G 3/8	6	L	04012001406
GE08L	G 3/8	8	L	04012021406
GE10L	G 3/8	10	L	04012031406
GE12L	G 3/8	12	L	04012041406
GE15L	G 3/8	15	L	04012051406
Elbow swivelling screw fittings (at inlet)				
WS12L	G 3/8	12	L	04013241406
Non-return valves (at outlet)				
RGE06L	G 3/8	6	L	0438000425
RGE08L	G 3/8	8	L	0438000139
RGE10L	G 3/8	10	L	0438000140
RGE12L	G 3/8	12	L	0438000241
Progressive distributor SX-4				
Male stud coupling (at inlet)				
GE06L	G 1/4	6	L	04012001006L
GE08L	G 1/4	8	L	04012021006
GE10L	G 1/4	10	L	04012031006
GE12L	G 1/4	12	L	04012041006
Elbow screw fittings (at inlet)				
WE08L	R 1/4"k	8	L	04012220806
WE10L	R 1/4"k	10	L	04012230806
Elbow swivelling screw fittings (at inlet)				
WS08L	G 1/4	8	L	04013221006
WS10L	G 1/4	10	L	04013231006
Non-return valves (at outlet)				
RGE1/8LL06	G 1/8	6	LL	0438000064
RGE1/8LL08	G 1/8	8	LL	0438000063
RGE1/8L06	G 1/8	6	L	0438000164
RGE1/8L08	G 1/8	8	L	0438000148
RGE1/4L06	G 1/4	6	L	0438000138
RGE1/4L08	G 1/4	8	L	0438000137
RGE1/4L10	G 1/4	10	L	0438000396
RGE1/4L12	G 1/4	12	L	0438000397
Male stud coupling (at outlet)				
GE1/8LL06	G 1/8	6	LL	04012000906
GE1/8LL08	G 1/8	8	LL	04012020906
GE1/8L06	G 1/8	6	L	04012000906L
GE1/4L06	G 1/4	6	L	04012001006L
GE1/4L08	G 1/4	8	L	04012021006
GE1/4L10	G 1/4	10	L	04012031006
GE1/4L12	G 1/4	12	L	04012041006

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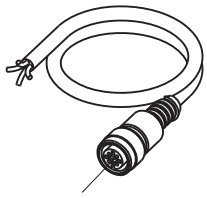
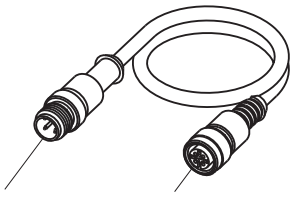
Fig. 1



Bush M12x1 for connection at proximity switch

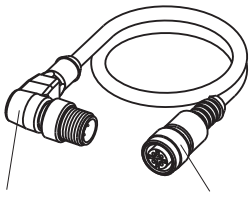
Fig. 2



Plug M12x1 straight

Bush M12x1 for connection at proximity switch

Fig. 3



Plug M12x1 angular

Bush M12x1 for connection at proximity switch

Plugs and cables for proximity switches
Connection cable for the connection to external monitoring units or for the connection to a control with Hirschmann connector

Order-no.	Cable length [m]	Fig.
1000 91 2458	2	1
1000 91 1237	5	1
1000 91 2457	10	1

Plugs and cables for proximity switches
Connection cable for the connection to the integrated controls BEKA-troniX1 and EP-tronic with bayonet connector

Order-no.	Cable length [m]	Plug form	Fig.
1000 91 2464	2	straight	2
1000 91 2465	5	straight	2
1000 91 2467	2	angular	3
1000 91 2468	5	angular	3

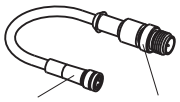
Fig. 4

Fig. 5

Bush M12x1 for proximity switches, ready-made

Order-no.	Bush type	Fig.
1000 91 1941	straight	4
1000 91 1768	angular	5

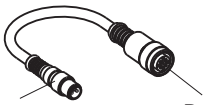
Fig. 6



Bush M8x1 for connection at proximity switch

Plug M12x1 straight for connection at connection cable

Fig. 7



Plug M8x1 for the connection to connection cable

Bush M12x1 straight for connection at proximity switch

Plugs and cables for proximity switches
Adapter cable with a straight bush M8x1 for the connection at the existing proximity switch M8x1 and a straight plug M12x1 for the connection at the connection cable (see fig. 4)

Adapter cable with a straight bush M12x1 for the proximity switch and a straight plug M8x1 for the connection to the already existing cables with bush M8x1 (see fig. 5)

Order-no.	Cable length [cm]	Fig.
1000 91 2495	30	6
1000 91 2496	30	7

Subject to alterations!

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