



## Service unit

### 3-piece

Size 1

**FRL 11**  
G 1/4

**FRL 12**  
G 3/8

 0.5 to 10 bar  
0.5 to 16 bar


## Characteristics

Type	FRL 11	FRL 12
Port	G 1/4	G 3/8
Pressure gauge port	G 1/4	
Type of construction	- Diaphragm pressure regulator with self-relieving design - Centrifugal filter Sintered filterelement - Proportional lubricator	
Input pressure $p_1$	Max. 16 bar with plastic bowl Max. 20 bar with metal bowl	
Input pressure $p_1$ with fully-automatic drain	Min. 1.5 bar Max. 16 bar	
Control range $p_2$	0.5 to 10 bar / 0.5 to 16 bar 0.1 to 3 bar / 0.2 to 6 bar on request	
Mounting position	Vertical, drain plug at bottom	
Mounting type	Bracket on regulator, hole $\varnothing 30.5$ Bracket and two through holes	
Medium temperature	-10 to 60 °C (other temperature	
Ambient temperature	-10 to 60 °C ranges on request)	
Filter rating	5 $\mu\text{m}$	
Bowl capacity	<b>Filter:</b> Max. 25 cm <sup>3</sup> condensate <b>Oil-mist lubricator:</b> 50 cm <sup>3</sup>	
Condensate drain	Semi-automatic Fully-automatic on request	
Weight [g]	1190	

## Materials

Part	Material
Head piece (body)	Z 410
Spring bonnet	POM-brass
Diaphragm	NBR-brass
Pressure spring	Galvanised steel
Valve cone	NBR-brass
Counter-pressure spring	Stainless steel
O-ring 30x2	NBR
Filter element 5 $\mu\text{m}$	PE
Condensate bowl	Polycarbonate
Air deflector	POM
Baffle	PA
Oil bowl	Polycarbonate
Oil fill plug	POM-NBR
Joiner set	Z 410-steel-NBR
Sight dome	PA
Sight dome - metal	Zinc-glass-NBR

## Ordering information



Port	
11	G 1/4
12	G 3/8
Options	
K-HA	Plastic bowl
M-SR	Metal bowl with sight glass
S	Bowl guard

Please use the suffix »A« to order fully-automatic drain

## Order example: FRL 11 K-HA

### Description

- Simple block mounting with other devices
- Joiner sets (**KP 11**) required for block mounting
- Pressure setting can be locked by pushing the knob down
- Flow direction indicated by arrows
- **Entry in direction of arrow**
- **Independent of inlet pressure**
- Pressure gauge  $\varnothing 40$  mm included
- Lockable adjusting knob (**on request**)
- Filter rating acc. to ISO 4003
- Bowl guard can be retrofitted without tools
- Oil can be filled underpressure

## Recommended oil

### Special pneumatic oil 32

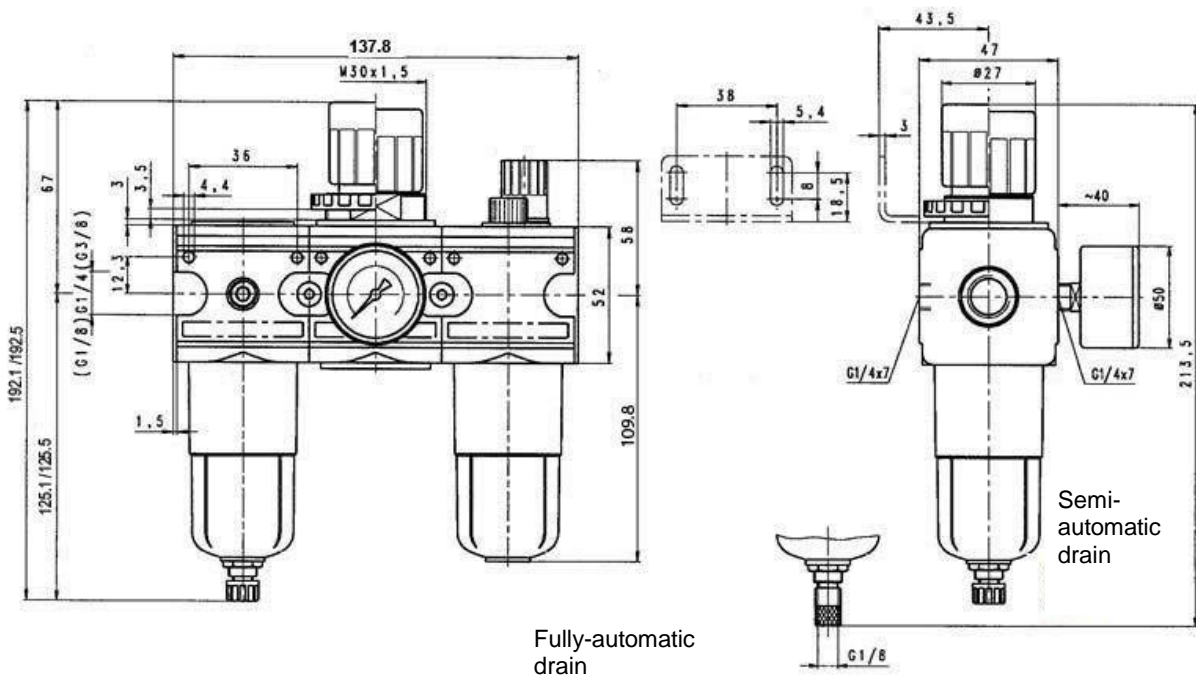
 Viscosity at 40 °C: 32 cSt [mm<sup>2</sup>/s]

Temperature range: -35 to +85 °C

Oil bowls made of plastic (polycarbonate) are corroded by additives, anti-freeze agents and synthetic oils. We therefore recommend using mineral oils from approx. 22 to 32 cSt or up to 68 cSt in conjunction with impacttools.

Metal bowls and metal sight domes should be used for all other oil grades.

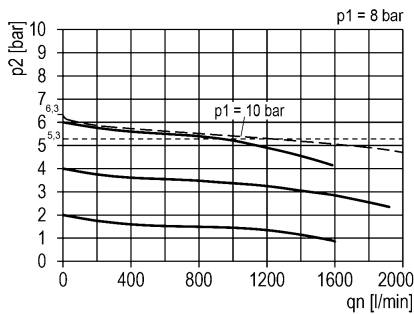
## Dimensions [mm]



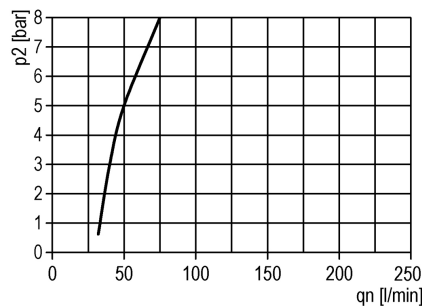
Fully-automatic drain

Semi-automatic drain

## Flow characteristic

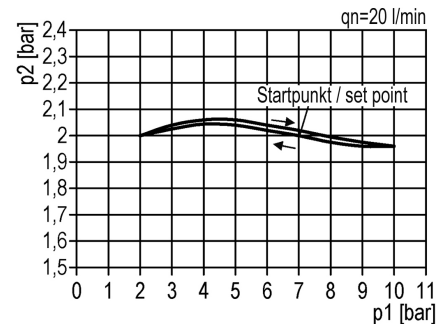


## Lubricator operating limit



## Hysteresis

Hysteresis of  $p_2$  as a function of rising (falling)  $p_1$  at a constant draw-off rate  $Q_N$  20 l/min  
Basic setting (starting point):  $p_1$ : 7.0 bar  
 $p_2$ : 2.0 bar



## Flow rates

Flow rates at  $p_1 = 10$  bar

Output pressure $p_2 =$ [bar]	QN	m <sup>3</sup> /h	l/min
6.3	72		
5.3	1200		

## Accessories

Designation	Article No.	Ident No.
Mounting bracket with nut R 11-55	MV 30	100344
Mounting bracket with two screws, compl.	ZW 11	100435
Joiner set	KP 11	100436
Joiner set for narrow diverterblock	KP 11 Z	100437
Metal bowl with sight glass (filter)	MS 11 FS	100498
Metal bowl with sight glass and fully-automatic drain valve (filter)	MS 11 FS-A	100499
Metal bowl with sight glass (lubricator)	MS 11 NS	100547
Polycarbonate bowl with semi-automatic drain valve (filter)	KS 11 F-HA	100500
Polycarbonate bowl with fully-automatic drain valve (filter)	KS 11 F-A	100361
Polycarbonate bowl (lubricator)	KS 11 N	100385
Automatic drain valve	655.6.900	100362
Bowl guard	SK 11	100501

## Main spare parts

Part	Article No.	Ident No.
→Set of wearing parts	22.1811.4	100438
Sight dome (metal)	1233.7.909	100393
Sight dome (polycarbonate)	1233.7.990	100392
Filter element 5 $\mu$ m	611.6.905	100134
Pr. gauge $\varnothing$ 40 mm, G1/4		
0 to 10 bar	110.03-KD	116896
0 to 16 bar	110.04-KD	116901

<b>Article No.</b>	<b>Ident No.</b>
FRL 11 K-HA	100581
FRL 12 K-HA	100582
FRL 11 S	100586
FRL 12 S	100587
FRL 11 M-SR	100591
FRL 12 M-SR	100592