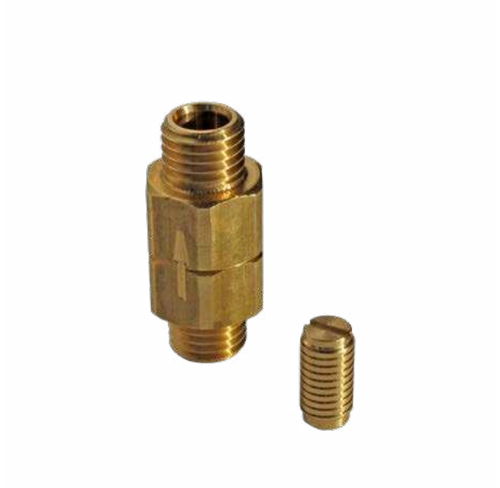
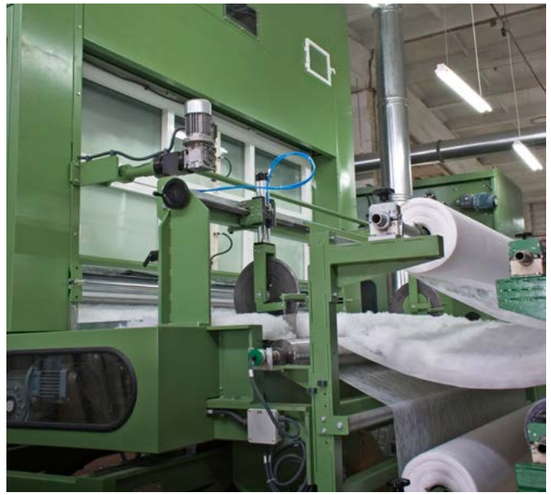
Screw-in restrictor

VD





Description

SKF screw-in flow restrictors VD are used to deliver relatively small amounts of oil to lubrication points. Four types of SKF VD are available, differing in tube diameter, flow rate and functionality. VD1 and VD4 restrictors can be combined and fit to manifolds, while VD2 and VD3 can be screwed directly into the ports of individual lubrication points. Screw-in restrictors VD3 and VD4 also come with a check valve to prevent leaks. These inexpensive flow restrictors are sensitive to dirt. Therefore, it is recommended to use a filter size of 10 µm.

Features and benefits

- Easy planning and flow rate regulation
- Flow rate dependent on pressure and viscosity
- Check valve to prevent leaks (VD3, VD4)
- Fitting to manifolds and combination of screw-in restrictors possible (VD1, VD4)
- Direct threading into ports of individual lubrication points possible (VD2, VD3)

Applications

- Machine tools
- Metal industry
- Presses
- Automation
- Industrial transmissions
- Automotive industry
- Heavy industry

Technical data

Function	screw-in restrictor
Outlets	1
Lubricant	mineral and PAO oils; viscosity 10–1 000 mm²/s
Flow rate	0,001–0,23 l/min *0.002–0.49 pts/min*
Operating temperature	0 to +60 °C; *+32 to 140 °F*
Operating pressure	10 bar; *145 psi*
Filter	< 10 µm
Material	steel, brass
Main line connections:	
VD 1	M10×1
VD 2	M10×1 for tube ∅6 mm
VD 3	DIN 3862 fitting for tube ∅4 mm
VD 4	M8×1
Outlet connections:	
VD 1	M8×1 for tube ∅ 4 mm
VD 2	M10×1 (direct lub. point mounting)
VD 3	M10×1 tap (direct lub. point mounting)
VD 4	DIN 3862 fitting for tube ∅4 mm M8 or M10
Length:	
VD 1	30 mm; *1.18 in*
VD 2	32 mm; *1.26 in*
VD 3	32 mm; *1.26 in*
VD 4	34 mm; *1.34 in*
Mounting position	any

NOTE
Further technical information, technical drawings, accessories, spare parts or product function descriptions available on SKF.com/lubrication:
1-5006-EN

3D
skf-lubrication.partcommunity.com/3d-cad-models

Metering devices

Screw-in restrictor

VD

VD

Order number	Tube	Flow rate [1] at 2 bar		at 4 bar		at 6 bar		Description [2]	Code
	∅ mm	ml/min	*pts/min*	ml/min	*pts/min*	ml/min	*pts/min*		
VD1-102	4	1	*0.0021*	2,8	*0.0059*	4	*0.0085*	M10×1 for manifold mounting, washer **504-019**	2
VD1-103	4	2,8	*0.0059*	5,5	*0.0116*	8	*0.0169*	M10×1 for manifold mounting, washer **504-019**	3
VD1-104	4	5	*0.0106*	10	*0.0211*	15	*0.0317*	M10×1 for manifold mounting, washer **504-019**	4
VD1-105	4	7,5	*0.0158*	15	*0.0317*	23	*0.0486*	M10×1 for manifold mounting, washer **504-019**	5
VD1-106	4	15	*0.0317*	28	*0.0592*	40	*0.0845*	M10×1 for manifold mounting, washer **504-019**	6
VD1-107	4	35	*0.0739*	68	*0.1437*	100	*0.2113*	M10×1 for manifold mounting, washer **504-019**	7
VD1-108	4	58	*0.1226*	112	*0.2367*	170	*0.3592*	M10×1 for manifold mounting, washer **504-019**	8
VD1-109	4	77	*0.1627*	155	*0.3276*	230	*0.4860*	M10×1 for manifold mounting, washer **504-019**	9
VD2-102	6	1	*0.0021*	2,8	*0.0059*	4	*0.0085*	M10×1 for mounting direct into lubrication point	2
VD2-103	6	2,8	*0.0059*	5,5	*0.0116*	8	*0.0169*	M10×1 for mounting direct into lubrication point	3
VD2-104	6	5	*0.0105*	10	*0.0211*	15	*0.0317*	M10×1 for mounting direct into lubrication point	4
VD2-105	6	7,5	*0.0159*	15	*0.0317*	23	*0.0486*	M10×1 for mounting direct into lubrication point	5
VD2-109	6	77	*0.1627*	155	*0.3276*	230	*0.4860*	M10×1 for mounting direct into lubrication point	9
VD3-099	4	0,15	*0.0003*	0,28	*0.0006*	0,4	*0.0008*	M10×1 tab for mounting direct into lubrication point	00
VD3-100	4	0,3	*0.0006*	0,68	*0.0014*	1	*0.0021*	M10×1 tab for mounting direct into lubrication point	0
VD3-101	4	0,5	*0.0011*	1	*0.0021*	1,5	*0.0032*	M10×1 tab for mounting direct into lubrication point	1
VD3-102	4	1	*0.0021*	2	*0.0042*	3	*0.0063*	M10×1 tab for mounting direct into lubrication point	2
VD4-099	4	0,15	*0.0003*	0,28	*0.0006*	0,4	*0.0008*	M8×1 for manifold mounting, washer **DIN 7603-A8x11,5-CU**	00
VD4-100	4	0,3	*0.0006*	0,68	*0.0014*	1	*0.0021*	M8×1 for manifold mounting, washer **DIN 7603-A8x11,5-CU**	0

[1] The shown flow rates are valid for an operating viscosity of 140 mm²/s. Flow rates change at the same time system pressure or lubricant vistcosity change. Further details on request.
[2] Washer not included, but can be ordered separately

Accessories - manifold

Order code V L – _ _ _ _ _ _

Product series

Number of ports
01 = 1 port **03** = 3 ports **05** = 5 ports **08** = 8 ports
02 = 2 ports **04** = 4 ports **06** = 6 ports **10** = 10 ports

Design of outlet thread
D = Small profile, M8×1 with counterbore for flat washer (can only be selected for main line connection M3)
F = Normal profile, M8×1 with counterbore for flat washer
G = Normal profile, M10×1 with counterbore for flat washer

Material
A = Aluminum;
E = Stainless steel (only for outlet threads A, B, E, G)

Design of main line connection
G1 = G 1/8 to DIN 3852-2, Form X, small
G2 = G 1/4 to DIN 3852-2, Form X, small
M1 = M10×1 to DIN 3852-1, Form X, small
M2 = M14×1.5 to DIN 3852-1, Form X, small
M3 = M10×1 with counterbore for solderless pipe connection per DIN 3862
M4 = M14×1.5 with counterbore for solderless pipe connection per DIN 3862

Order example

VL-02FAM3
- Product series VL
- 2 ports
- Normal profile made of aluminum
- M8×1 internal thread with counterbore for flat washer
- M10×1 main line connection with counterbore for solderless pipe connection per DIN 3862