

Inline filter

RE 51401/08.08

1/10

Types 40 FLEN 0160 to 1000; 40 FLE 0045, 0055, 0120 to 0270

Nominal size **according to DIN 24550**: 0160 to 1000
 Nominal size according to BRFS: 0045, 0055, 0120 to 0270
 Nominal pressure 40 bar
 Connection up to SAE 4"
 Operating temperature -10 °C to $+100\text{ °C}$

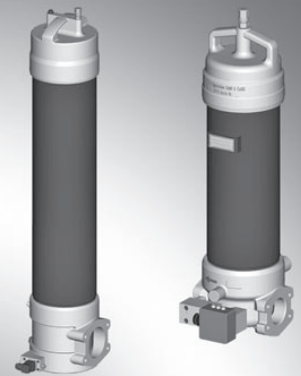


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Application

- Filtration of hydraulic fluids and lubricants.
- Filtration of liquids and gases.
- Direct inline installation.
- Direct wear protection for downstream components and systems.
- Offline filtration in case of long filter standstills.

Features

- Filters for inline installation
- Designed for offline filtration
- Large filter area
- Optimized flow characteristics by 3D - computer aided design
- Low pressure drop.
- Special high efficient filter media

Construction

Modular design constructed out of three parts including filter bowl with inlet and outlet, filter body and threaded filter head.

Filter element

Pleated design with optimized pleat density and various filter media.

The filter element is the most important component of the "FILTER" system in view of prolonged life and wear protection of the system.

Oil cleanliness, the initial pressure drop and the dirt holding capacity are the most important criteria for selection.

For further detailed information please refer to our "Filter Elements" brochure.

Accessories

Maintenance indicator

For monitoring the filter element's contamination status, visual and visual/electrical indicators, available with one or two switching points.

Bypass valve

To protect the filter element during start up and over pressurization due to clogging.

Characteristic lines

A proper filter selection is enabled by our "BRFS- FILTERSELECT" software.

The characteristic lines for the filters in this brochure are available in the filter calculation program by Bosch Rexroth Filtration Systems (BRFS) under:
http://www.eppensteiner.de/deutsch/download/Auslegungsprogramm2005/filterselect_frz.htm

Quality and standardization

The development, manufacture and assembly of BRFS-industrial filters and BRFS filter elements is carried out within the framework of a certified quality management system in accordance with DIN EN ISO 9001:2000.

Certification of the filters by accredited institutions (for example TÜV, GL, LRS LRIS, ABS, BV, DNV, DRIRE, UDT, etc.) is available on request.

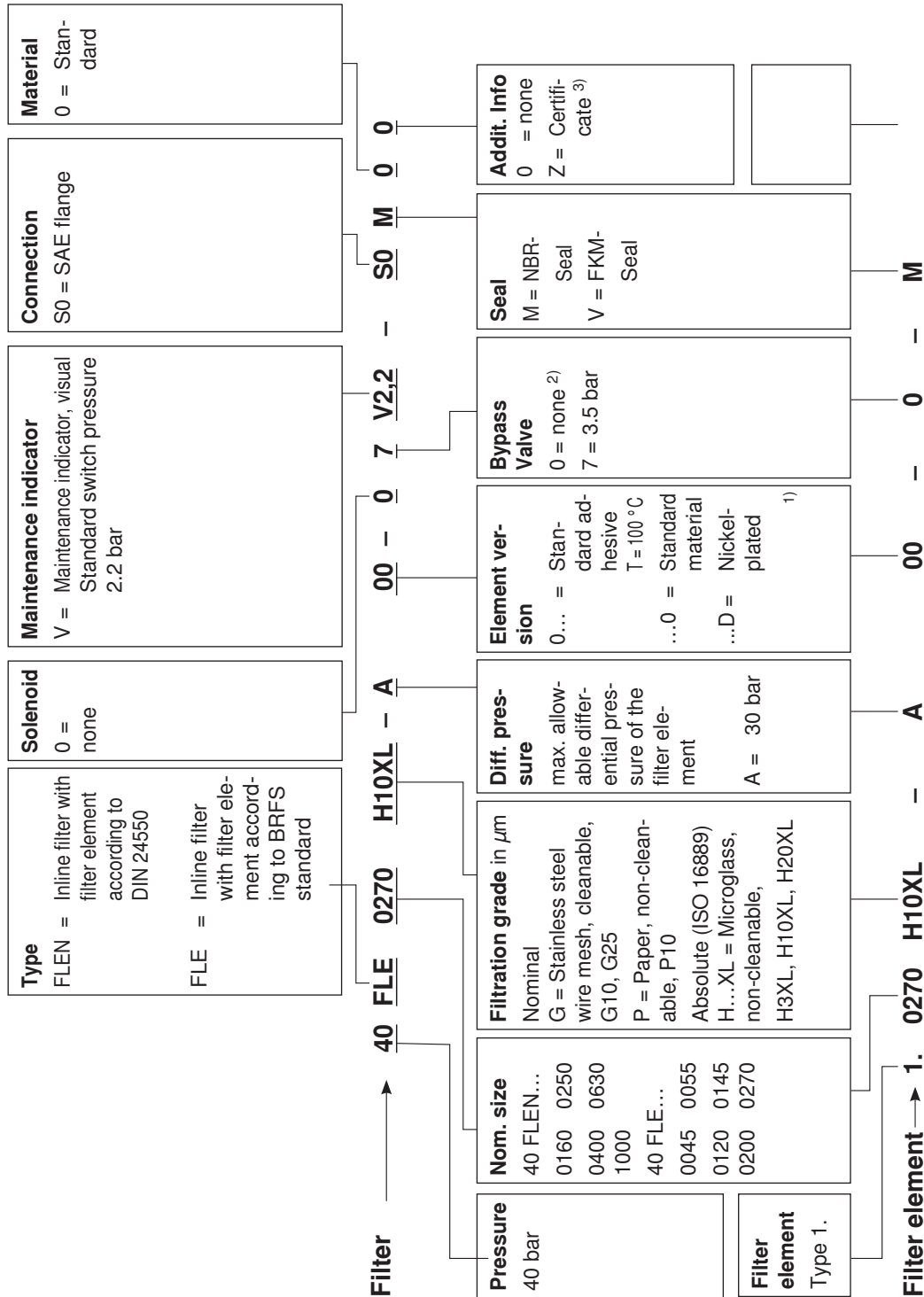
The stability calculation and testing of the filters take place according to updated rules, as well as in accordance with national and international standards.

The CE-identification mark according to the Pressure Equipment Directive 97/23/EC depends upon the individual application and operating conditions.

We are able to perform the conformity evaluation in accordance with the Pressure Equipment Directive if requested.

Order details

Determine the filter size:
with the computer program "BRFS-FILTERSELECT".



¹⁾ Only in connection with FKM seal.

²⁾ With filter element always 0.

³⁾ Z = Manufacturer's inspection certificate M according to DIN 55350 T18

Order details: electric switching element for contamination indicator

ABZ	F	V	-	-1X	/	-DIN
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Rexroth Anlagenbau Accessories

Filter

Contamination indicator

Electric switching element with 1 switching point (changeover), round plug-in connection M12x1 = **E1SP-M12X1**Electric switching element with 2 switching points (opener/closer), 75%, 100%, round plug-in connection M12x1, 3 LED = **E2SP-M12X1**Electric switching element with 2 switching points (opener/closer), 75%, 100%, signal suppression until 30 °C round plug-in connection M12x1, 3 LED = **E2SPSU-M12X1**Electric switching element with 1 switching point (opener), plug-in connection according to DIN EN 175301-803 ¹⁾ = **E1SP-DIN43650**Electric switching element with 2 switching points (changeover), 75%, 100%, plug-in connection according to DIN EN 175201-804 ²⁾, 3 LED = **E2SP-DIN43651**Electric switching element with 2 switching points (changeover), 75%, 100%, signal suppression until 30 °C, plug-in connection according to DIN EN 175201-804 ²⁾, 3 LED = **E2SPSU-DIN43651**

-DIN = Mark for DIN- and SAE model

1X =

Unit series
Unit series 10 to 19
(10 to 19; identical installation and connection dimensions)

Electric switching element	Material no.
ABZ FV-E1SP-M12X1-1X/-DIN	R901025339
ABZ FV-E2SP-M12X1-1X/-DIN	R901025340
ABZ FV-E2SPSU-M12X1-1X/-DIN	R901025341
ABZ FV-E1SP-DIN43650-1X/-DIN	R901025349
ABZ FV-E2SP-DIN43651-1X/-DIN	R901025331
ABZ FV-E2SPSU-DIN43651-1X/-DIN	R901025337

¹⁾ DIN 43650 has been replaced by
DIN EN 175301-803!

²⁾ DIN 43651 parts 1 through 3 were replaced by
DIN EN 175201-804!

Order example: Pressure filter with mechanic-visual contamination indicator for $p_{\text{Nominal}} = 63 \text{ bar}$ [910 psi] with bypass valve, nominal size 63, with filter element 10 μm and electric switching element M12x1 with 1 switching point Mineral oil HLP according to DIN 51524 for hydraulic fluid.

Filter: ABZFD-S0063-10N-063-1X/M-DIN **Material no.:** R901025424

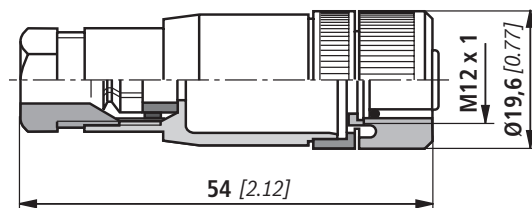
Contamination indicator: ABZ FV-E1SP-M12X1-1X/-DIN **Material no.:** R901025339

Plug-in connectors according to IEC 60947-5-2 (dimensions in mm [inch])

For electric switching element with round plug-in connection M12 x 1

Plug-in connector for K24 4-pin, M12 x 1 with screw connection, cable screw Pg9.

Material no. R900031155



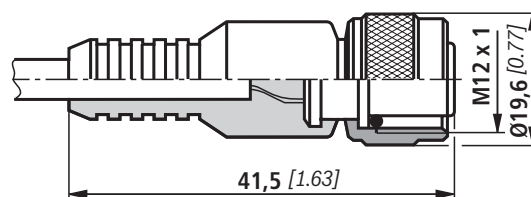
Plug-in connector for K24-3m 4-pin, M12 x 1 with potted-in PVC cable, 3 m long.

Line diameter: 4 x 0.34 mm²

Core marking:

1	Brown
2	White
3	Blue
4	Black

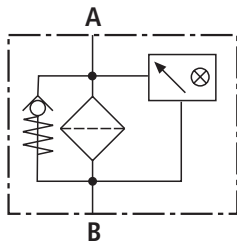
Material no. R900064381



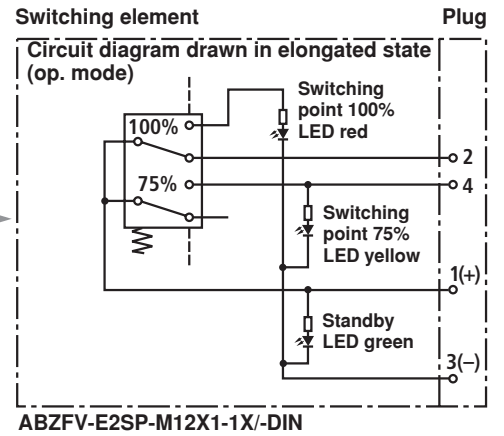
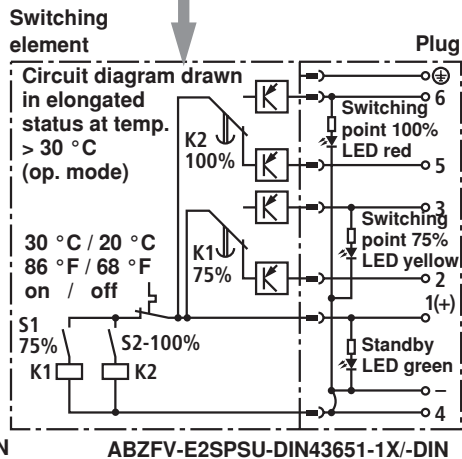
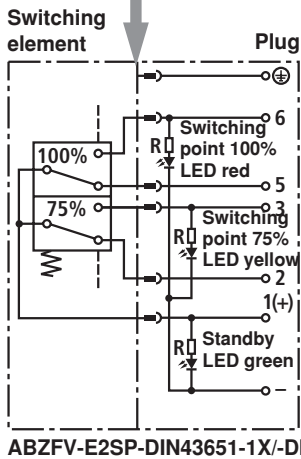
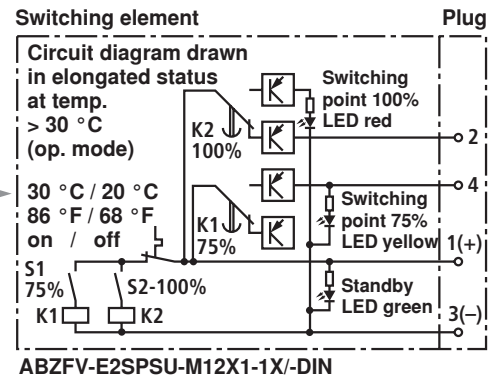
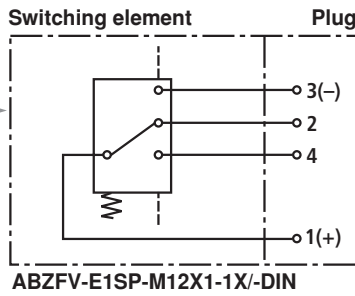
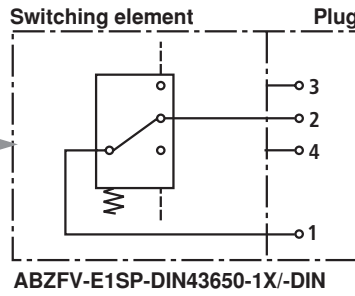
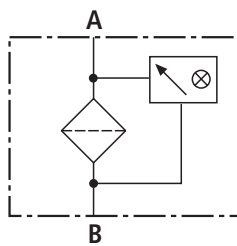
For more round plug-in connections, see datasheet RE 08006.

Symbols

Pressure filter with bypass and mechanic display



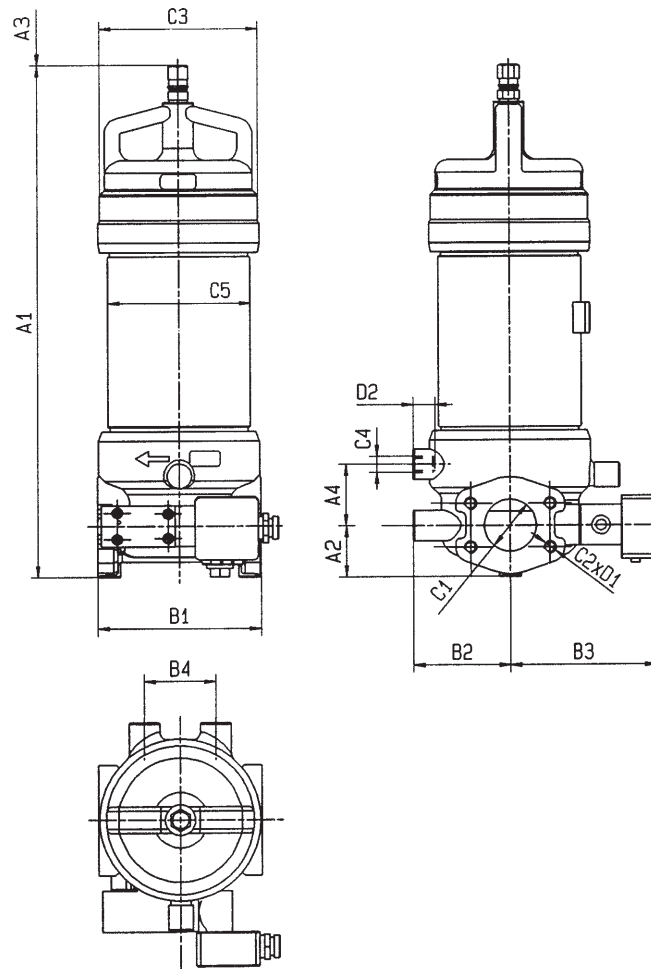
Pressure filter without bypass, with mechanic display



Electric switching element for contamination indicator

Specifications (Please inquire in case the intended use of unit is outside the given values!)**electric** (electric switching element)

Electrical Connection		Round plug-in connection M12 x 1, 4-pin Plug-in connection according to DIN EN 175201-804, 6-pin + PE Plug-in connection according to DIN EN 175301-803, 3-pin + PE	
Contact load, direct voltage	A	max. 1	
Voltage range	E1SP-M12x1 V DC/AC	max. 150	
	E1SP-DIN43650 V DC/AC	200 / 250	
	E2SP V DC	10 to 30	
Max. switching power with resistive load		20 VA; 20 W; (70 VA; 70 W with E1SP-DIN43650)	
Switching type	E1SP-M12x1	Changeover	
	E1SP-DIN43650	Opener	
	E2SP-M12x1	Closer at 75% of the opening pressure, Opener at 100 % of the opening pressure	
	E2SP-DIN43651	Changeover at 75 and 100% of the opening pressure	
	E2SPSU-M12x1	Closer at 75% of the opening pressure, Opener at 100 % of the opening pressure Signal switching through at 30 °C [86 °F], Return switching at 20 °C [68 °F]	
	E2SPSU-DIN43651	Changeover at 75 and 100% of the opening pressure Signal switching through at 30 °C [86 °F], Return switching at 20 °C [68 °F]	
Display via LED's in the electric switching element E2SP...		Stand-by (LED green); 75% switching point (LED yellow) 100% switching point (LED red)	
Protection type according to EN 60529		IP 65	
For direct voltage above 24 V a spark extinguishing is to be planned to protect the switching contacts.			
Mass	Electric switching element: – with round plug-in connection M12 x 1	kg [lbs]	0.1 [0.22]
	– with plug-in connection according to DIN 43651	kg [lbs]	0.17 [0.37]

Dimensions: 40 FLEN 0160 - 0630, 40 FLE 0045, 0055, 0120 (in mm)**Filter housing for filter elements in accordance with DIN 24550**

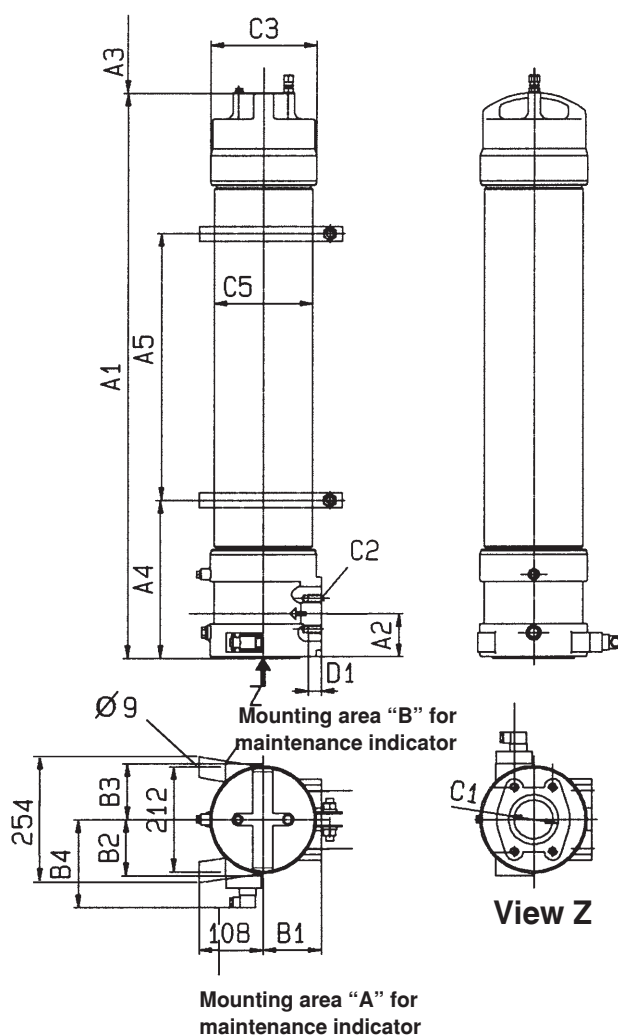
Type 40 FLEN...	Volume in l	Weight in kg ¹⁾	A1	A2	A3 ²⁾	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2
0160	1.4	12.0	411	49.5	160	60		160	95	143	70	SAE 2" 3000 psi DN50	M12	Ø 158	M16	Ø 140	21	22
0250	2.7	13.2	501		250													
0400	4.0	19.5	543	61.5	70		195	105	155	90	SAE 3" 3000 psi DN80	M16	Ø 188	M16	Ø 170	21	20	
0630	7.1	21.9	693															400

Filter housing for filter elements according to BRFS standard

Type 40 FLE...	Volume in l	Weight in kg ¹⁾	A1	A2	A3 ²⁾	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2
0045	4.8	19.0	663	49.5	400	60		160	95	143	70	SAE 2" 3000 psi DN50	M12	Ø 158	M16	Ø 140	21	22
0055	6.8	23.0	831		568													
0120	14	27.4	1050	61.5	750	70		195	105	155	90	SAE 3" 3000 psi DN80	M16	Ø 188	M16	Ø 170	21	20

¹⁾ Weight including standard filter element and maintenance indicator.

²⁾ Servicing height for filter element replacement.

Dimensions: 40 FLEN 1000, 40 FLE 0200 - 0270 (in mm)

Filter housing for filter elements in accordance with DIN 24550

Type 40 FLEN...	Volume in l	Weight in kg ¹⁾	A1	A2	A3 ²⁾	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2
1000	12	50	553	90		260	65	118	113	113	183	SAE 4" 3000 psi DN100	M16	Ø 216	-	Ø 200	26	-

Filter housing for filter elements according to BRFS standard

Type 40 FLE...	Volume in l	Weight in kg ¹⁾	A1	A2	A3 ²⁾	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2
0200	22	60	911	90	758	320	310	118	113	113	183	SAE 4" 3000 psi DN100	M16	Ø 188	-	Ø 200	26	-
0270	28	70	1145		992		540											

¹⁾ Weight including standard filter element and maintenance indicator.

²⁾ Servicing height for filter element replacement.

Spare parts (insert for DIN and SAE filters)

Mechanic-visual contamination indicator

Rexroth Anlagenbau Accessories

Filter

Contamination indicator

Mechanic-visual contamination indicator for low-pressure filters switching point 2.2 bar [32 psi]

ABZ | **F** | **V** - **NV2** - **1X** / - **DIN**

= **NV2**

DIN = Mark for DIN and SAE model

M =

V =

1X =

Sealing material

See table below

See table below

Unit series

Unit series 10 to 19
(10 to 19; identical installation and connection dimensions)

Mechanic-visual contamination indicator	Material no.
ABZ FV-NV2-1X/M-DIN	R901025312

The order details for filter elements can be found on page 3.

Sealing material and surface coating for hydraulic liquids

			Order detail	
			Sealing material	Element model
Mineral oils				
Mineral oil	HLP	according to DIN 51524	M	...0
Flame-resistant hydraulic fluids				
Emulsions	HFA-E	according to DIN 24320	M	...0
Synthetic aqueous solutions	HFA-S	according to DIN 24320	M	...D
Aqueous solutions	HFC	according to VDMA 24317	M	...D
Phosphate esters	HFD-R	according to VDMA 24317	V	...D
Organic esters	HFD-U	according to VDMA 24317	V	...D
Hydraulic fluids that are fast biodegradable				
Triglycerides (rape seed oil)	HETG	according to VDMA 24568	M	...D
Synthetic esters	HEES	according to VDMA 24568	V	...D
Poly glycoles	HEPG	according to VDMA 24568	V	...D

Notes

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