findynamica
drive and control products

SERIES

NEW

MRSX

116 - 165 - 166

Return/Suction Filter

Maximum pressure 10 bar

Maximum flow to 300 l/min

MP FILTRI

Technical data

MRSX 116 - 165 - 166

Materials (Filter housing)

- Head: Aluminium
- Cover: Nylon (MRSX 116)
  Aluminium (MRSX 165-166)
- Bowl: Nylon

Pressure

- Working pressure: 10 bar

Temperature

- From -25 °C to +110 °C

Δp Elements

- RSX: 10 bar
- Oil flow from exterior to interior.

Seals

- Standard NBR series A
- Optional FPM series V

Weights (kg)

Length	1	2	3
• MRSX 116	1,30	1,40	-
• MRSX 165	3,40	3,80	4,10
• MRSX 166	3,40	3,80	4,10

Volumes (dm^3)

Length	1	2	3
• MRSX 116	0,80	1,00	-
• MRSX 165	2,00	2,60	3,00
• MRSX 166	2,00	2,60	3,00

MRSX

Compatibility (to ISO 2943)

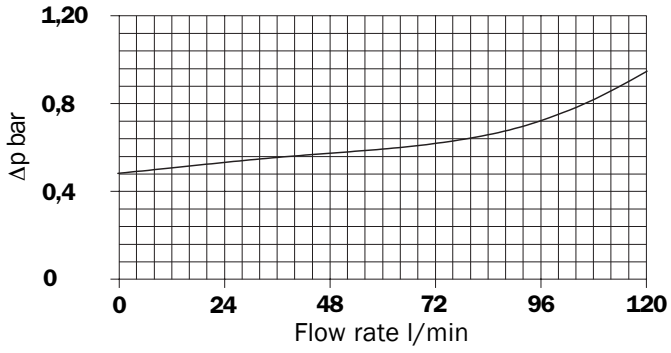
- Mineral oils
- Synthetic fluids
- Biodegradable fluids

Filter housings Δp pressure drop

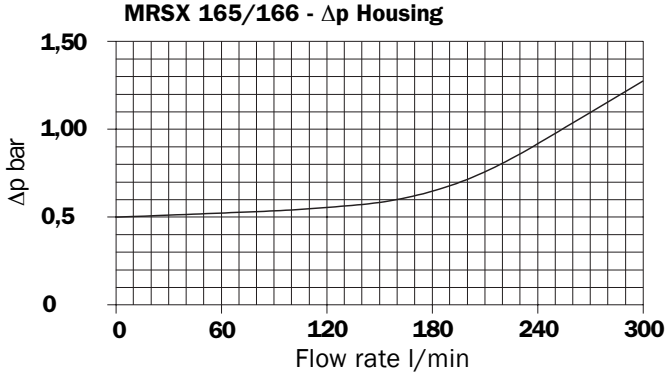
The curves are plotted utilising mineral oil with density of 0.86 kg/dm^3 to ISO 3968.

Δp varies proportionally with density.

MRSX 116 - Δp Housing



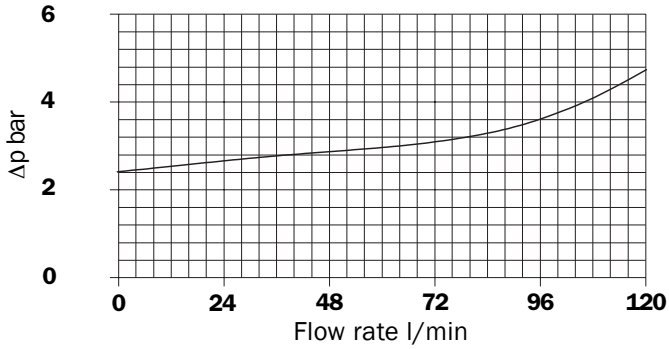
MRSX 165/166 - Δp Housing



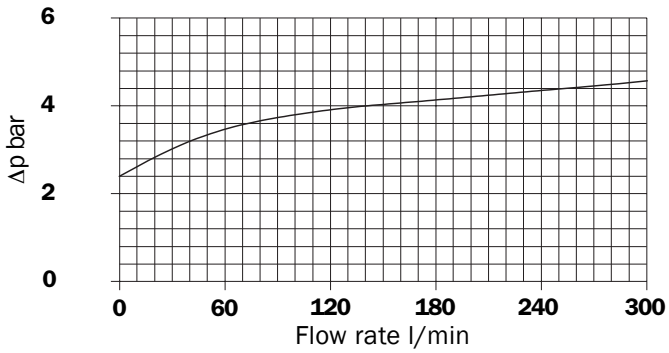
Valves

Bypass valve pressure drop

MRSX 116



MRSX 165 - 166



Multiplication factor "Y" for definition of the pressure drop of filter elements.

Reference viscosity 30 mm^2/s

Filter Element		Absolute Filtration		
Type		**A 1 0**	**A 1 6**	**A 2 5**
RSX 116	1	5,12	4,33	3,85
	2	2,22	1,87	1,22
RSX 165	1	2,06	1,75	1,46
	2	1,24	1,05	0,96
	3	0,94	0,86	0,61

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Sizing data for single cartridge, head at top

Δp Tot.
Δpc Filter housing
Δpe Filter element
Y Multiplication factor (see page 2)
Q l/min = flow rate
V1 = reference viscosity 30 mm²/s (cSt)
V2 = operating viscosity in mm²/s (cSt)
Δp Tot. = Δpc + Δpe
Δpe = Y : 1000 x Q x (V2/V1)

Calculation example with HLP Mineral Oil Variation in viscosity

Data:
Filter with in-line connections
Pressure = 6 bar
Flow rate = 200 l/min
Viscosity = 46 mm²/s (cSt)
Density = 0,86 Kg/dm³
Filtration = 10 μ absolute
With bypass valve

Practical example
Δpe Filter housing

Q = 200 l/min
V_2 = 46 mm²/s (cSt)
Pmax = 6 bar
Filtration = 10 μ absolute
Δp Tot. max = **0,4 bar** (max. recommended value)
Δpe = (1,24 : 1000) x 200 x (46/30) = 0,37 bar

Δpc Filter housing
Q tot = 200 l/min
Q1 to the tank = 150 l/min
Q2 to the pump = 50 l/min

Filter type - MRSX 165 (see housings pressure drop)

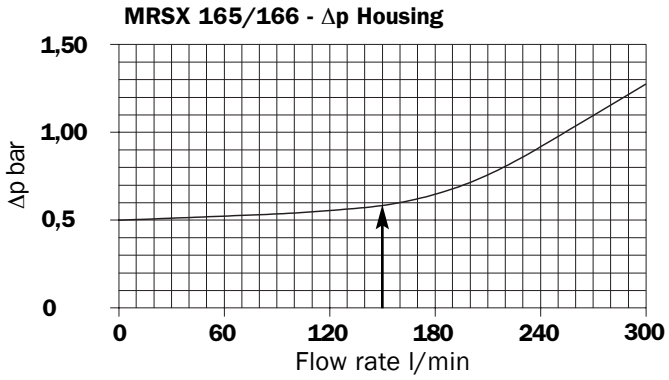
Δp Tot. max 1 – 1,6 bar = Δpc + Δpe
Δp Tot. = 0,59 (Q1) + 0,37 = 0,96 bar

Sized filter type:
MRSX 165 2 F A G1 0 A10 S P01

Filter housings Δp pressure drop

The curves are plotted utilising mineral oil with density of 0.86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.

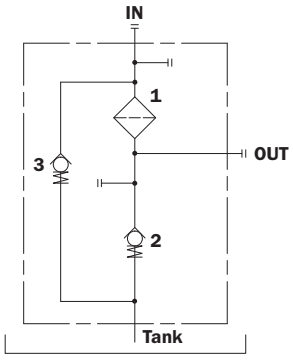


LEGEND

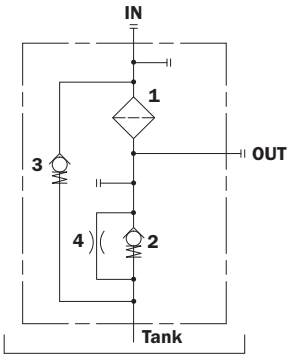
1 - Filter element
2 - Back-Pressure valve: opening pressure 0,5 bar ±10%
3 - Bypass valve: opening pressure 2,5 bar ±10%
4 - Depressurization valve
5 - Anti-Cavitation valve
6 - Safety filter element (wire mesh 60 μm)
7 - Anti-Cavitation valve / Anti- Emptying valve

MRSX 116

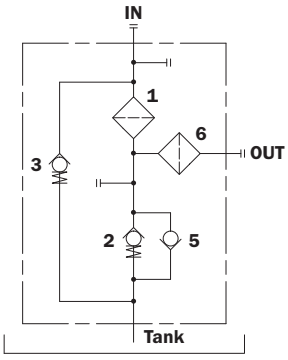
Valves “A” option



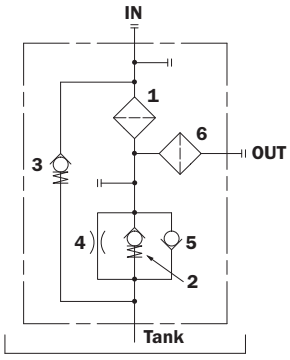
Valves “B” option



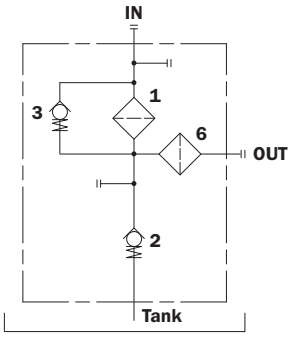
Valves “C” option



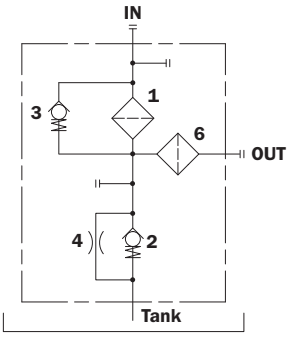
Valves “D” option



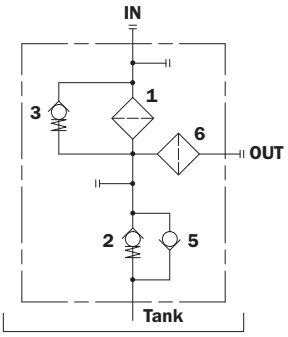
Valves “E” option



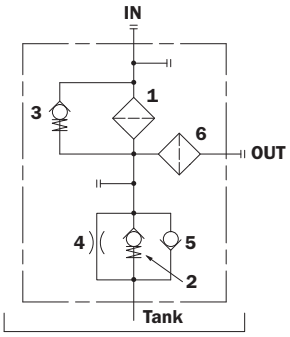
Valves “F” option



Valves “G” option

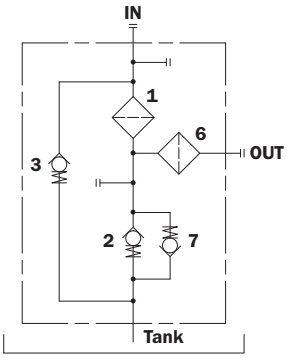


Valves “H” option

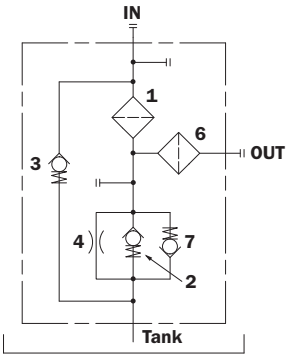


Suitable only for tank side-wall mounting

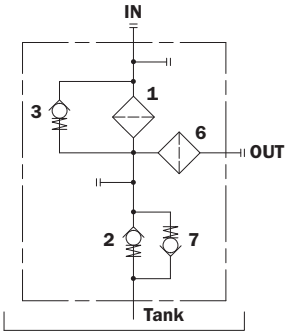
Valves “I” option



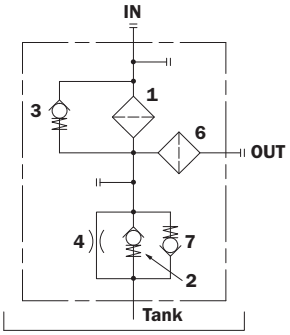
Valves “L” option



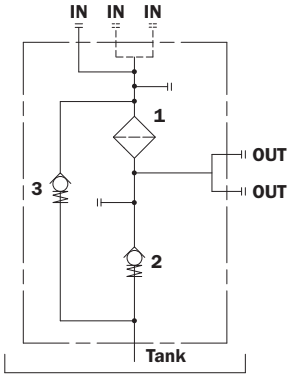
Valves “M” option



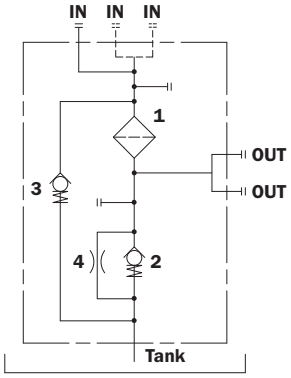
Valves “N” option



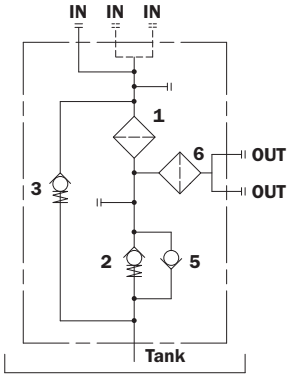
Valves “A” option



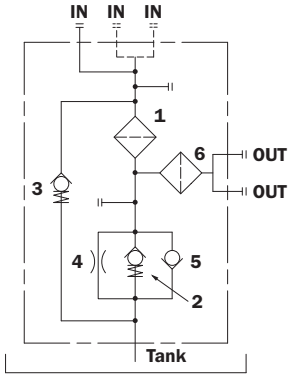
Valves “B” option



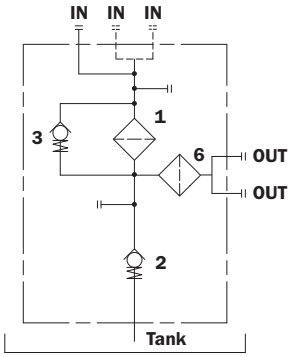
Valves “C” option



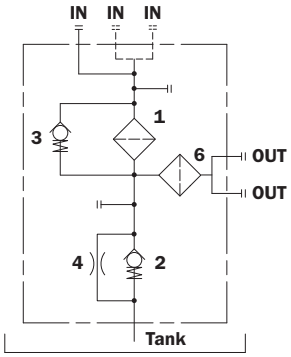
Valves “D” option



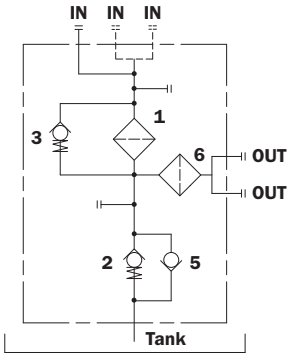
Valves “E” option



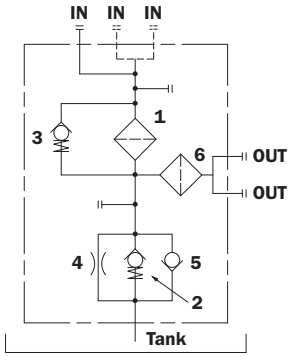
Valves “F” option



Valves “G” option

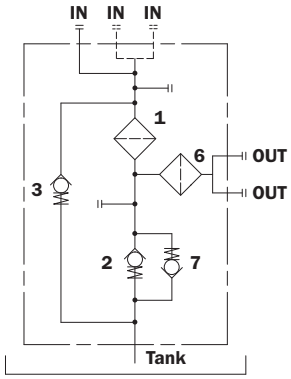


Valves “H” option

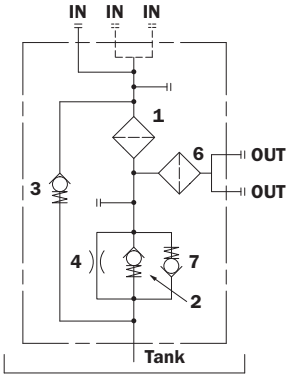


Suitable only for tank side-wall mounting

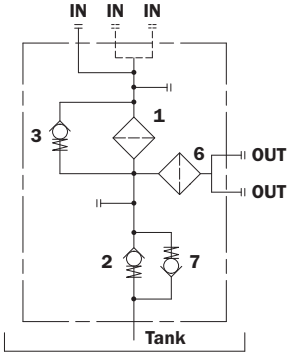
Valves “I” option



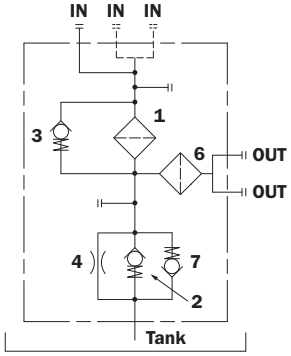
Valves “L” option

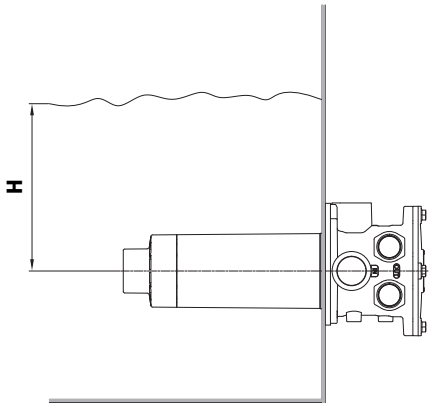


Valves “M” option



Valves “N” option



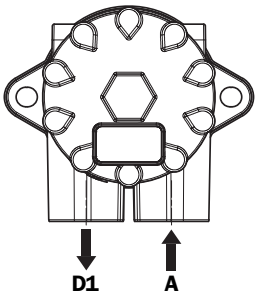


H= max. 800 mm

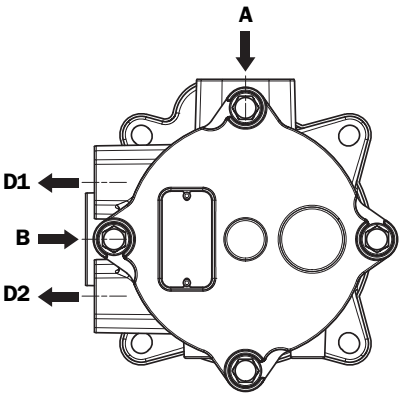
Only for hydraulic schemes:
A - B - E - F - I - L - M - N

Port configuration

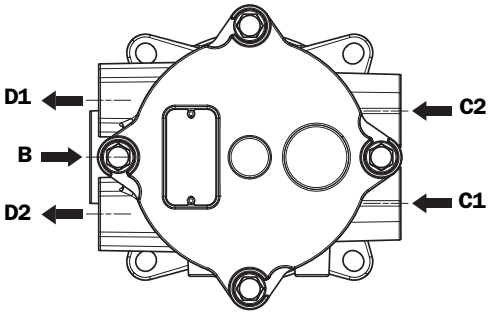
MRSX 116



MRSX 165



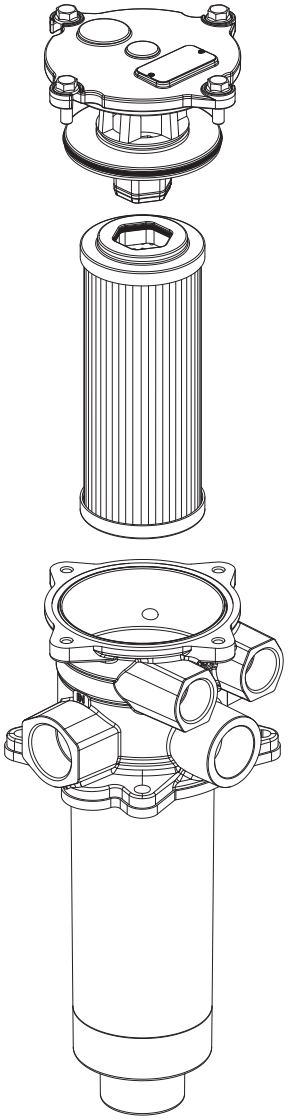
MRSX 166

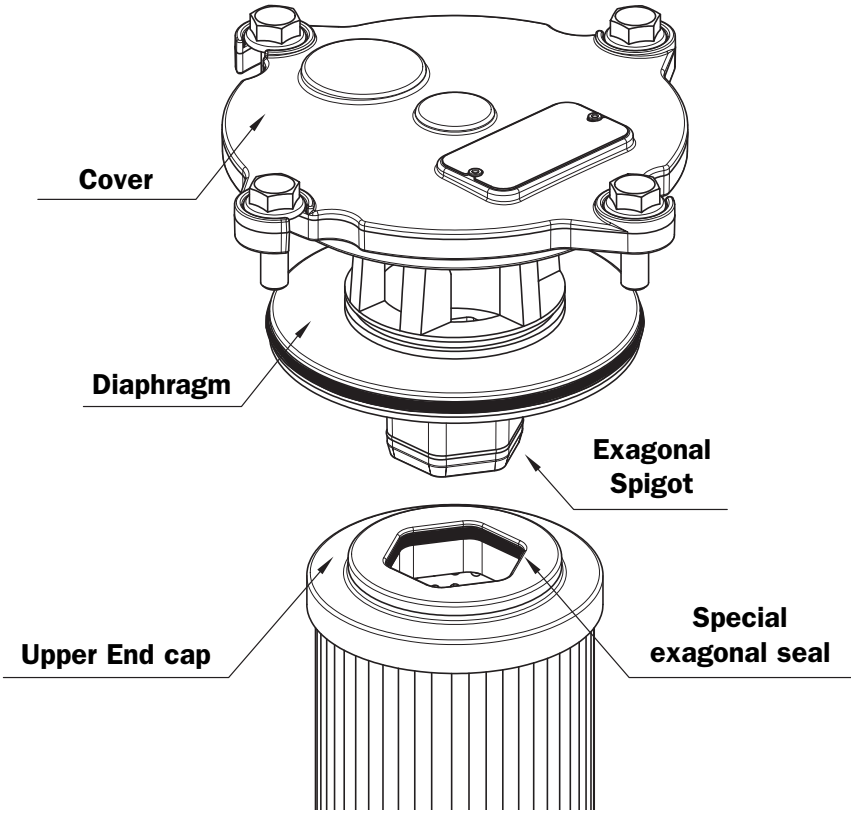


Thread connections

Code	A (IN)	B (IN)	C1 (IN)	C2 (IN)	D1 (OUT)	D2 (OUT)	T (Indicator port)
MRSX 116 x x G1 0 xxx x P01	G 3/4"	-	-	-	G 3/4"	-	G 1/8"
MRSX 116 x x G2 0 xxx x P01	G 1"	-	-	-	G 1"	-	G 1/8"
MRSX 116 x x G3 0 xxx x P01	3/4" NPT	-	-	-	3/4" NPT	-	1/8" NPT
MRSX 116 x x G4 0 xxx x P01	1" NPT	-	-	-	1" NPT	-	1/8" NPT
MRSX 116 x x G5 0 xxx x P01	SAE 12	-	-	-	SAE 12	-	1/8" NPT
MRSX 116 x x G6 0 xxx x P01	SAE 16	-	-	-	SAE 16	-	1/8" NPT
MRSX 116 x x D1 0 xxx x P01	G 1"	-	-	-	G 3/4"	-	G 1/8"
MRSX 116 x x D2 0 xxx x P01	1" NPT	-	-	-	3/4" NPT	-	1/8" NPT
MRSX 116 x x D3 0 xxx x P01	SAE 16	-	-	-	SAE 12	-	1/8" NPT
MRSX 165 x x G1 0 xxx x P01	G 1 1/4"	-	-	-	G 1"	G 1"	G 1/8"
MRSX 165 x x G2 0 xxx x P01	1 1/4" NPT	-	-	-	1" NPT	1" NPT	1/8" NPT
MRSX 165 x x G3 0 xxx x P01	SAE 20	-	-	-	SAE 16	SAE 16	1/8" NPT
MRSX 165 x x G1 1 xxx x P01	G 1 1/4"	G 1 1/4"	-	-	G 1"	G 1"	G 1/8"
MRSX 165 x x G2 1 xxx x P01	1 1/4" NPT	1 1/4" NPT	-	-	1" NPT	1" NPT	1/8" NPT
MRSX 165 x x G3 1 xxx x P01	SAE 20	SAE 20	-	-	SAE 16	SAE 16	1/8" NPT
MRSX 166 x x G1 1 xxx x P01	-	G 1 1/4"	G 1"	G 1"	G 1"	G 1"	G 1/8"
MRSX 166 x x G2 1 xxx x P01	-	1 1/4" NPT	1" NPT	1" NPT	1" NPT	1" NPT	1/8" NPT
MRSX 166 x x G3 1 xxx x P01	-	SAE 20	SAE 16	SAE 16	SAE 16	SAE 16	1/8" NPT

New filter element *HEX series* with exclusive interface connection



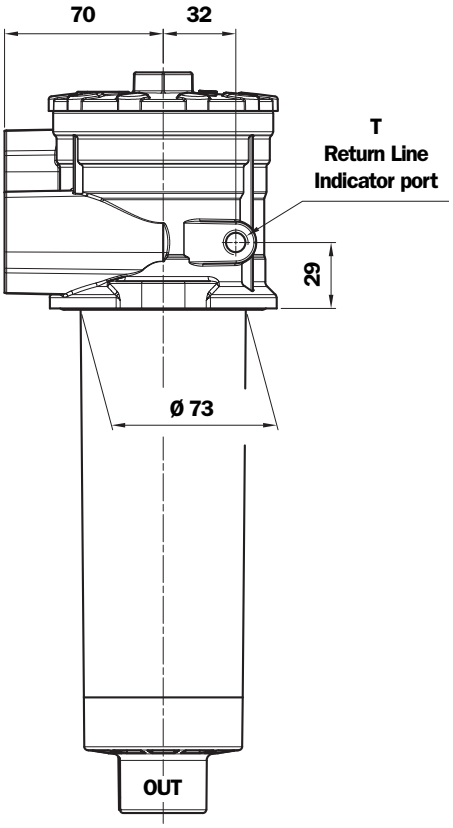


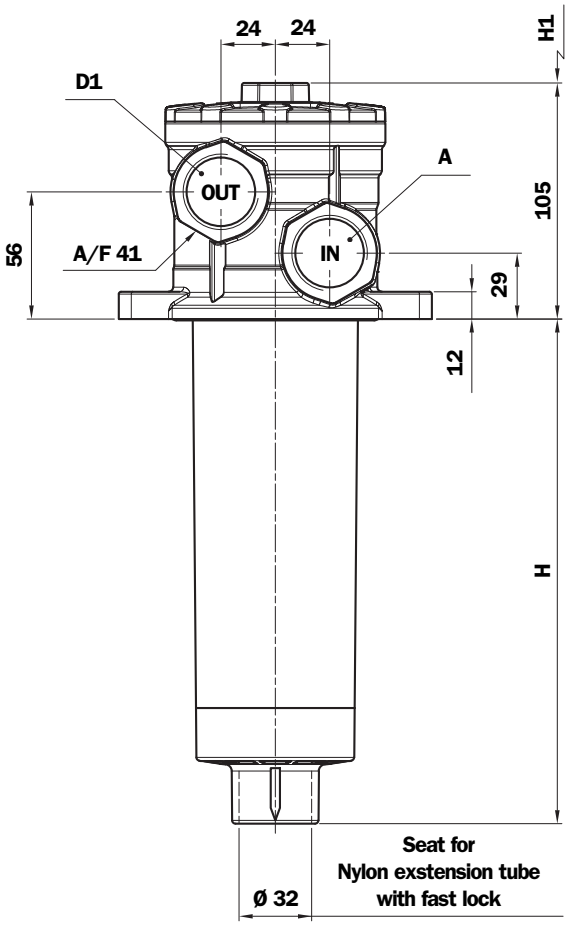
Safety of constant quality protection & reliability

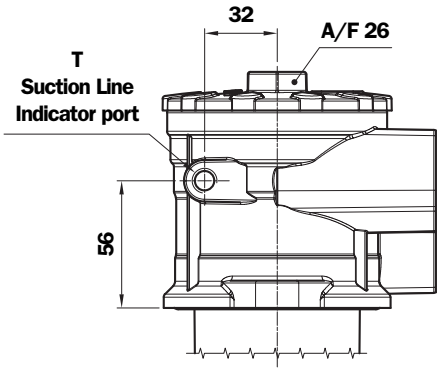
With exclusive filter element HEX you are sure that only filter elements MP Filtri can be used, ensuring the best cleaning level of the oil due to the use of originals filter elements.

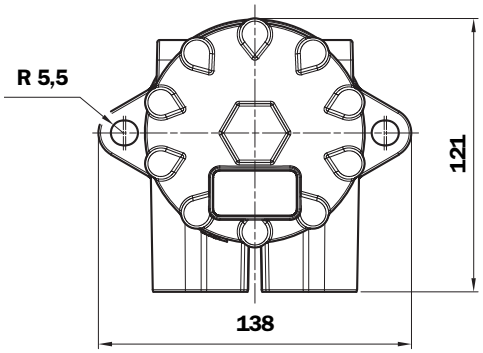
Note:
Available on request filter series MRS diaphragm with cylindrical spigot, element RS with standard O-Ring on the upper end cap.

MRSX 116

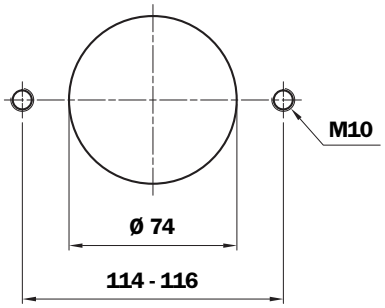








Holes on the tank

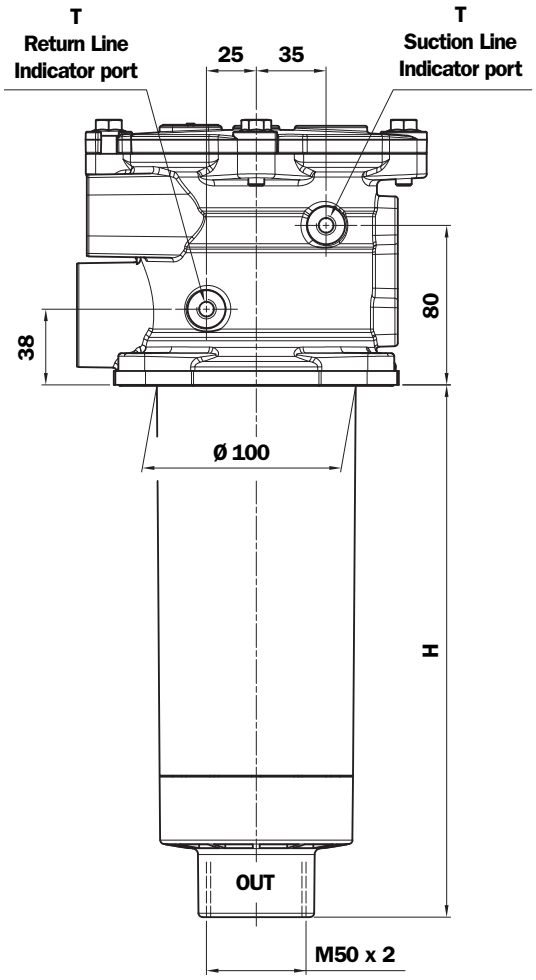


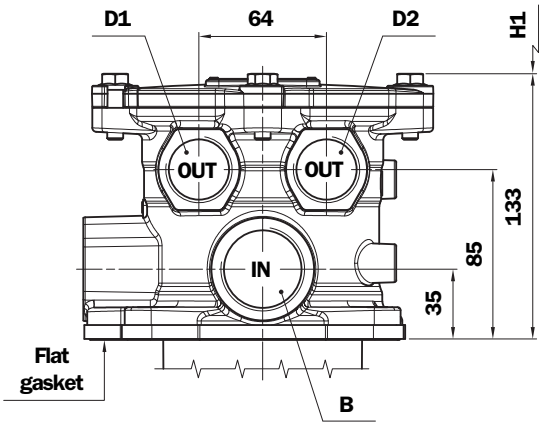
MRSX 116

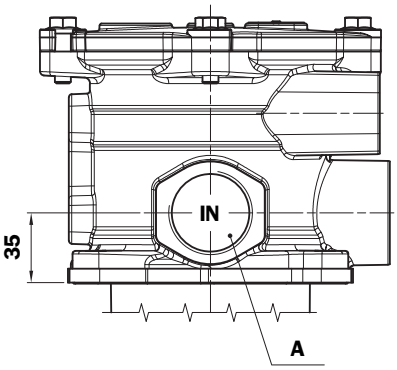
Filter Length	H mm	H1 mm
1	203	240
2	263	300

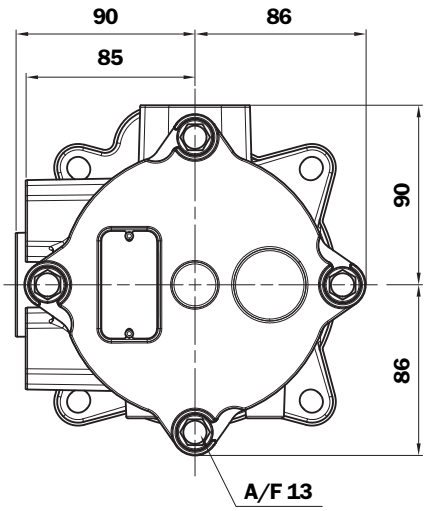
See page 6 thread connections

MRSX 165

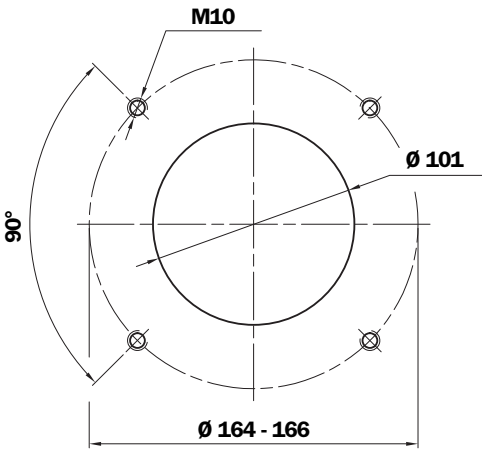








Holes on the tank



MRSX 165

Filter Length	H mm	H1 mm
1	267	320
2	375	430
3	442	500

See page 6 thread connections

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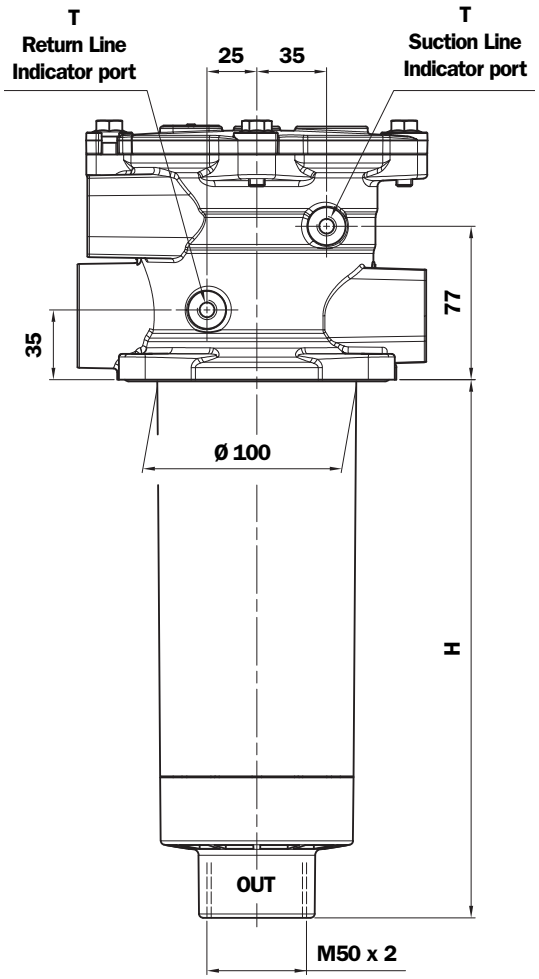
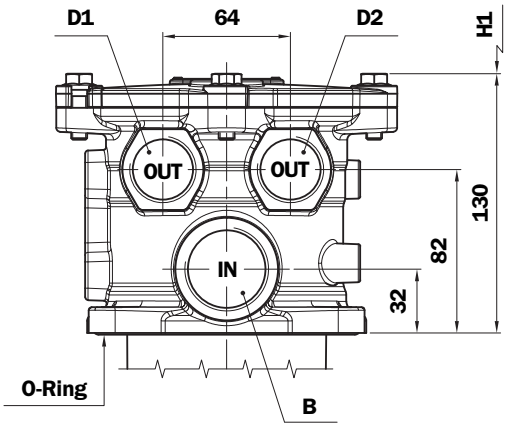
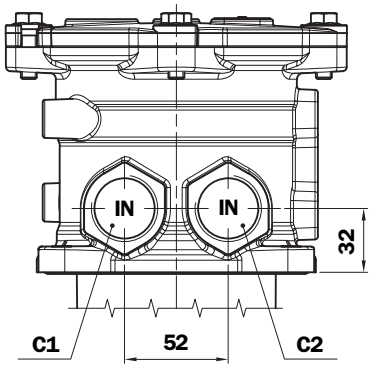
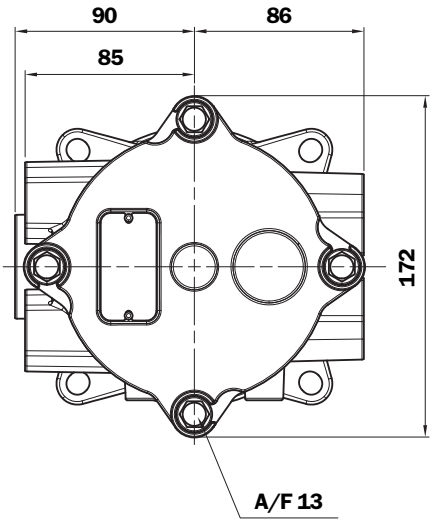
MRSX 166

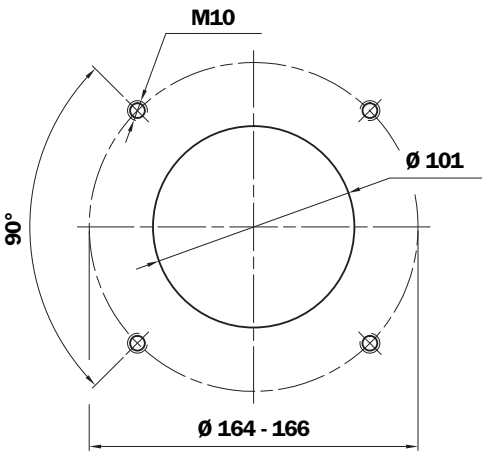








Holes on the tank



MRSX 166

Filter Length	H mm	H1 mm
1	270	320
2	378	430
3	445	500

See page 6 thread connections

Ordering information MRSX 116 - 165 - 166

Filter assembly MRSX

	1	2	3	4a	5	6	7	8	9
Example 1: MRSX	116	1	B	A	G1	0	A16	B	P01
Example 2: MRSX	165	2	C	B	G3	0	A10	S	P01
Example 3: MRSX	166	3	G	V	G2	1	A25	S	P01

Filter element RSX

	1	2	7	4b	9
Example 1: RSX	116	1	A16	A	P01
Example 2: RSX	165	2	A10	A	P01
Example 3: RSX	165	3	A25	V	P01

1 - Size

Filter	Filter element
116	116
165	165
166	165

2 - Filter length

116	1	2	
165	1	2	3
166	1	2	3

3 - Valves option

A	E
B	F
C	G
D	H
I	M
L	N

See page 4-5 for “Hydraulic schemes”

Only for tank side-wall mounting applications (see point “8 - Style”, option “**B**”)

4 - Seals

4a - Filter assembly

A	NBR - O-Ring on head
B	NBR - Flat gasket on head
V	FPM - O-Ring on head
D	FPM - Flat gasket on head

4b - Filter element

A	NBR
V	FPM

5 - Standard connections

MRSX 116

G1	G4	D1
G2	G5	D2
G3	G6	D3

See page 6 threaded connections

MRSX 165 - 166

G1
G2
G3

See page 6 threaded connections

6 - Additional IN connection

MRSX 116

0	Without additional IN connection

MRSX 165

0	Without additional IN connection
1	With additional IN connection “B” (see page 6 threaded connections)

MRSX 166

1	With additional IN connection “B” (see page 6 threaded connections)

7 - Filter element

A10	Inorganic microfibre 10 µ	Absolute filtration Inorganic Microfibre ßx (c) ≥ 1000
A16	Inorganic microfibre 16 µ	
A25	Inorganic microfibre 25 µ	

8 - Style

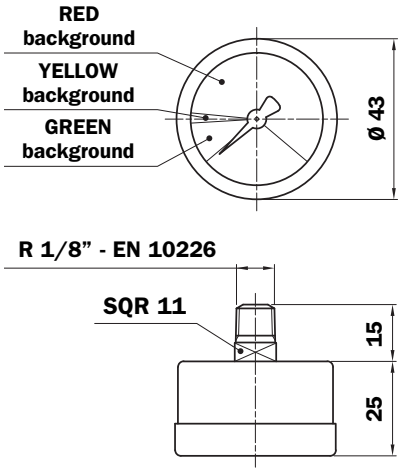
S	Standard
B	For tank side-wall mounting applications. Only for valves: A - B - E - F - I - L - M - N

9 - Option

P01	MP Filtri standard
Pxx	On request

Barometric indicators

BVA



Ordering code: **BVA25P01**

Pressure setting: 2,5 bar ±10%

Axial Pressure Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub cu-alloy soft soldered

Technical data:

- Indicator type: Axial pressure gauge
- Max working pressure: Static: 7 bar
Fluctuating: 6 bar
Short time: 10 bar
- Working temperature: From -40°C to +60°C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

HYDRAULIC SYMBOL

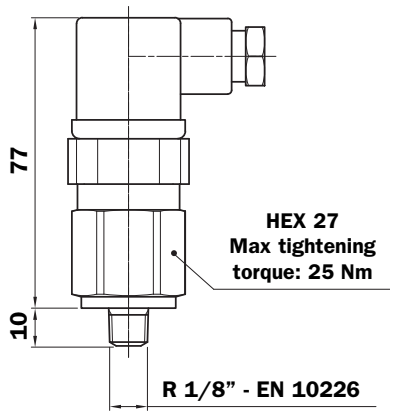
GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to 2,5 bar)
Clean filter element

YELLOW BACKGROUND
(from 2,5 to 3 bar)
Warning

RED BACKGROUND
(from 3 to 10 bar)
Bypass

BEA



Ordering code: **BEA25HA50P01**

Pressure setting: 2,5 bar ±10%

Electrical Pressure Indicator

Materials:

- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

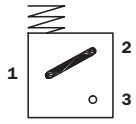
Technical data:

- Indicator type: Electrical pressure indicator
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943

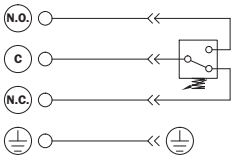
Electrical data:

- Resistive load: 5 A / 14 VDC
4 A / 30 VDC
5 A / 125 VAC
5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529
- Available Atex product Ex II 1GD Ex ia IIC Tx Ex ia IIIC Tx°C X

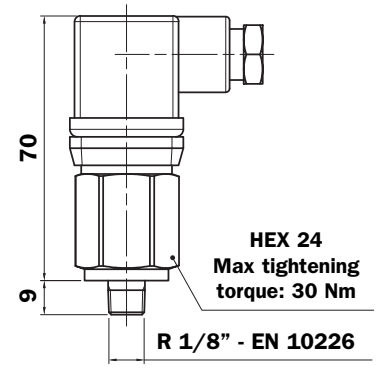
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BET



Ordering code: **BET25HF50P01**

Pressure setting: 2,5 bar ±10%

Electrical Pressure Indicator

Materials:

- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

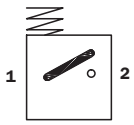
Technical data:

- Pressure switch type: Electrical pressure switch
- Pressure setting: 2,5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100°C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943

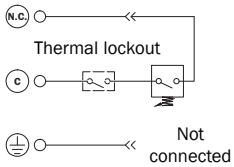
Electrical data:

- Electrical condition: Normally closed single contact
- Resistive load: 0,5 A / 48 VDC
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

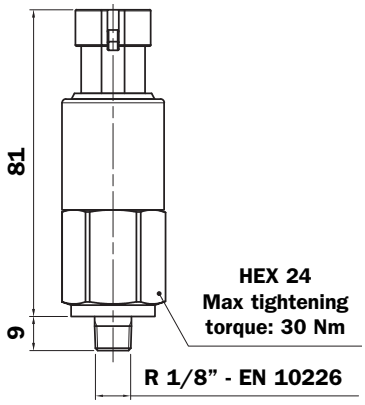
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BET



Ordering code: **BET25HF11P01**

Pressure setting: 2,5 bar ±10%

Electrical Pressure Indicator

Materials:

- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

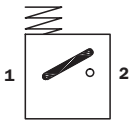
Technical data:

- Pressure switch type: Electrical pressure switch
- Pressure setting: 2,5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

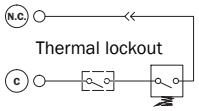
Electrical data:

- Electrical condition: Normally closed single contact
- Resistive load: 0,5 A / 48 VDC
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

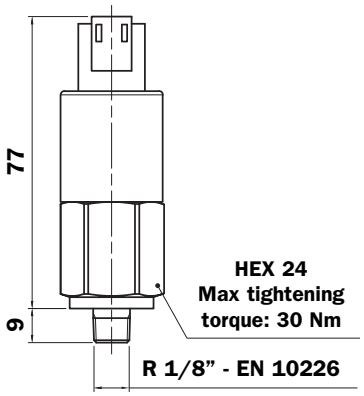
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BET



Ordering code: **BET25HF31P01**

Pressure setting: 2,5 bar ±10%

Electrical Pressure Indicator

Materials:

- Body: Brass
- Base - Ring: Nylon
- Contact: Silver
- Seals: HNBR

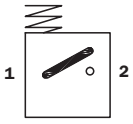
Technical data:

- Pressure switch type: Electrical pressure switch
- Pressure setting: 2,5 bar ±10%
- Working pressure: 10 bar
- Proof pressure: 15 bar
- Max working temperature: +100°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

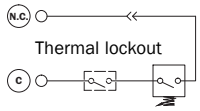
Electrical data:

- Electrical condition: Normally closed single contact
- Resistive load: 0,5 A / 48 VDC
- Thermostat condition: Open up to 30°C
- CE certification
- Protection degree: IP 65 in according to EN 60529

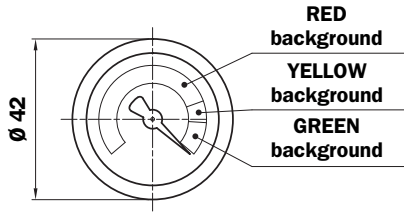
HYDRAULIC SYMBOL

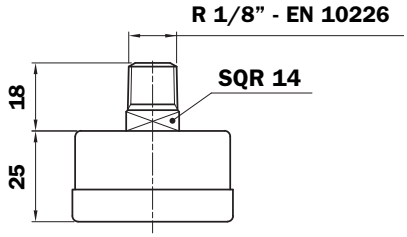


ELECTRICAL SYMBOL



VVB





Ordering code: **VVB16P01**

Connection: R 1/8" EN 10226

Axial Vacuum Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub Cu-alloy soft soldered

Technical data:

- Indicator type: Axial vacuum gauge
- Max working pressure: Static: 7 bar
Fluctuating: 6 bar
Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

HYDRAULIC SYMBOL

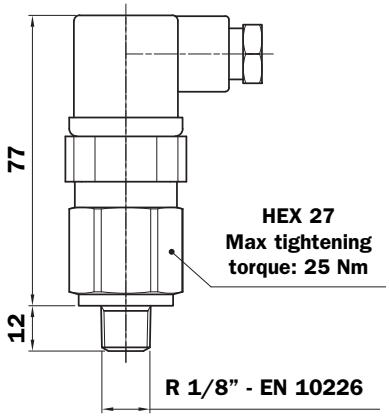
GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to -12 cmHg)
Clean filter element

YELLOW BACKGROUND
(from -12 to -18 cmHg)
Warning

RED BACKGROUND
(from -18 to -76 cmHg)
Warning

VEB



Ordering code: **VEB21AA50P01**

Connection: R 1/8" EN 10226

Electrical Vacuum Indicator

Materials:

- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

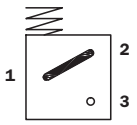
Technical data:

- Indicator type: Electrical vacuum indicator
- Setting pressure: -0,21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943

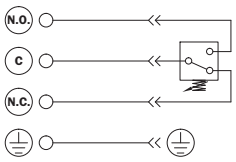
Electrical data:

- Resistive load: 5 A / 14 VDC
4 A / 30 VDC
5 A / 125 VAC
5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529
- Available Atex product: II 1GD Ex ia IIC Tx Ex ia IIIC Tx °C X

HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



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LMP 124

In-Line Suction and Return Filter

Maximum pressure 80 bar

Flow rates to 160 l/min

Filter housing (Materials)

- Head: Aluminium
- Housing: Cataphoresis Painting
- Bypass valve: Brass - Aluminium

Pressure

LMP 124 length: 1 - 2 - 3 - 4

- Working pressure: 80 bar (8 MPa)
- Test pressure: 120 bar (12 MPa)
- Burst pressure: 380 bar (38 MPa)
- Pulse pressure fatigue test: 1.000.000 cycles with pressure from 0 to 80 bar (8 MPa)

Temperature

- From -25°C to +110°C

Bypass valve

- Opening pressure 2.5 bar ±10%
- Other opening pressures on request.

Δp Elements type

- Series N and W elements: 20 bar
- Oil flow from exterior to interior.

Seals

- Standard NBR series A
- Optional FPM series V

Weights (kg)

length	
• LMP124 - 1	1,7
• LMP124 - 2	1,9
• LMP124 - 3	2,2
• LMP124 - 4	2,7

Volumes (dm^3)

length	
• LMP124 - 1	0,75
• LMP124 - 2	0,81
• LMP124 - 3	1,11
• LMP124 - 4	1,53

Compatibility (to ISO 2943)

- Housings compatible with:
  Mineral oils, synthetic fluids.
  Aqueous emulsions, water and glycol
  (series W required).
- The filter elements are compatible with:
  Mineral oils, synthetic fluids.
  Aqueous emulsions, water and glycol
  (series W required).
- NBR seals series A, compatible with:
  Mineral oils, synthetic fluids, aqueous emulsions and water and glycol.
- FPM seals series V, compatible with:
  Synthetic fluids type HS-HFDR-HFDS-HFDU

Filter Element Area

Filter element in stainless steel mesh

Type	Length 1	2	3	4
CU 110	1302	1764	2464	3864

Values expressed in **cm^2**

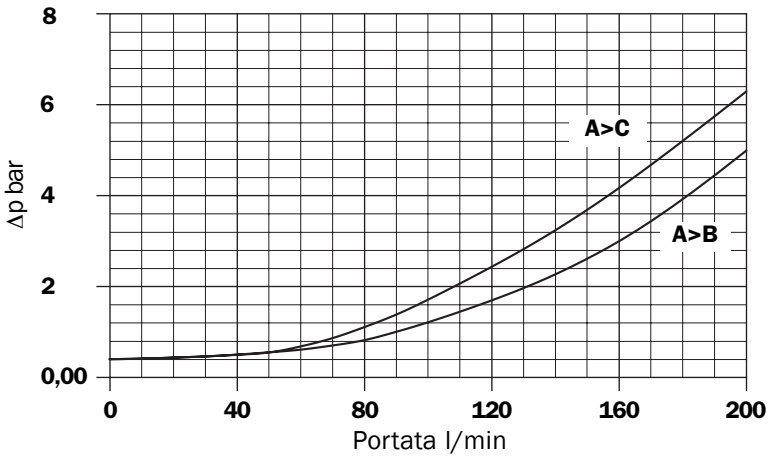
LMP 124

Filter housings Δp pressure drop

The curves are plotted utilising mineral oil with density of 0.86 kg/dm^3 to ISO 3968.

Δp varies proportionally with density.

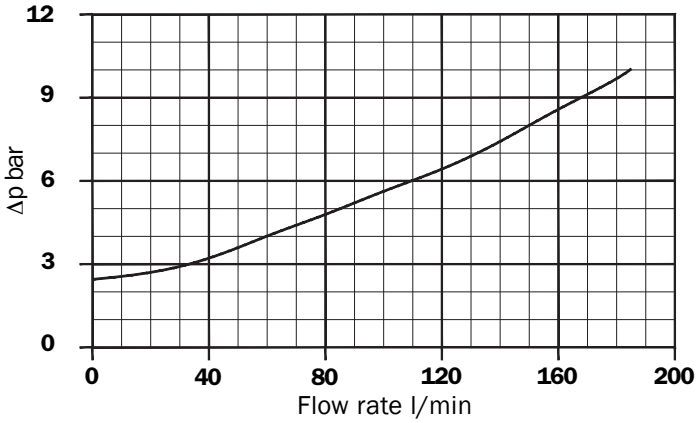
LMP 124 - Δp Housing



Valves

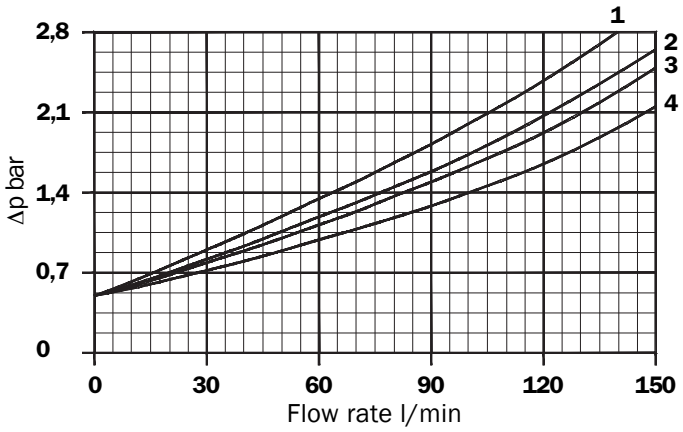
Bypass valve pressure drop

LMP 124

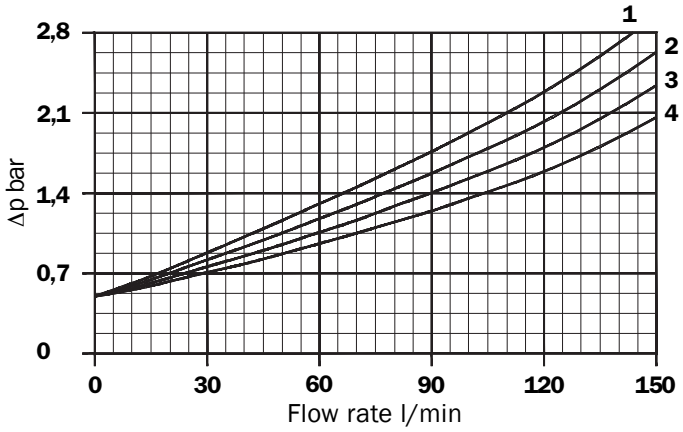


Style C - D - E - F

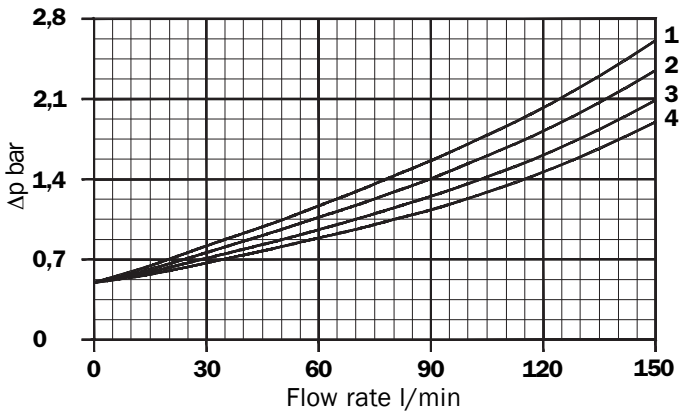
Absolute filtration A10



Absolute filtration A16

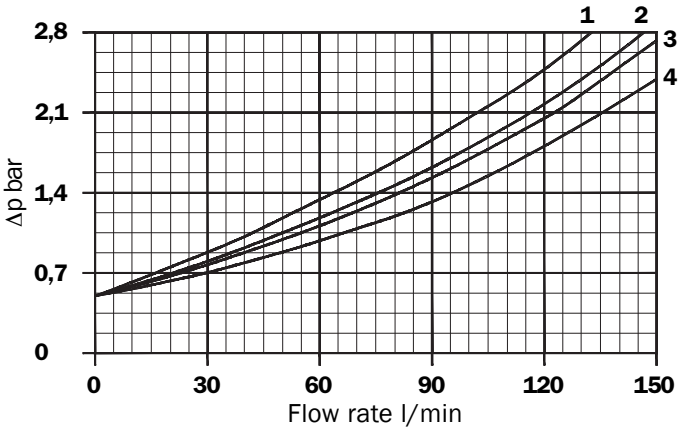


Absolute filtration A25

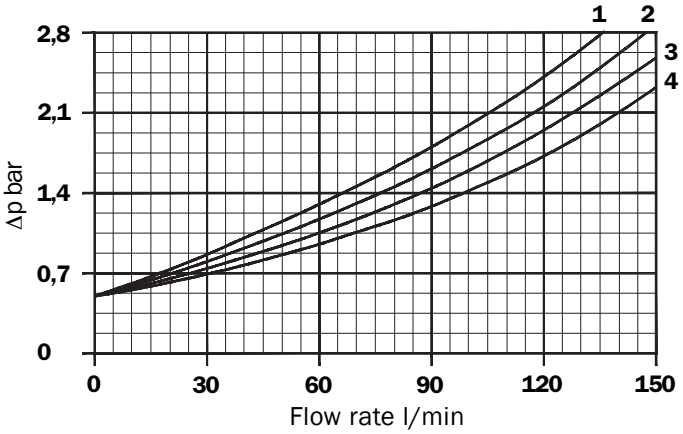


Style G - H

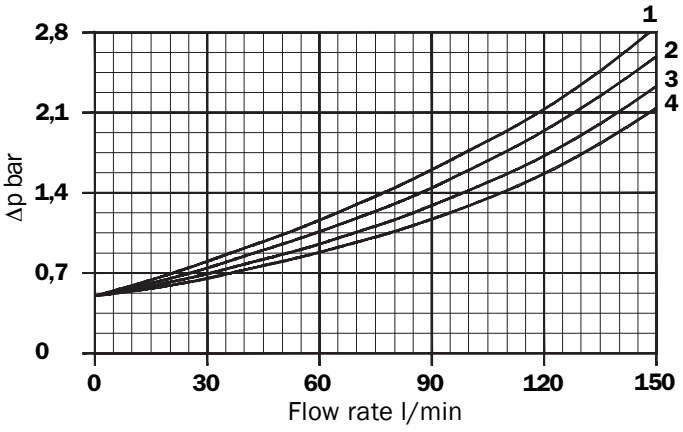
Absolute filtration A10



Absolute filtration A16



Absolute filtration A25



Filter length

1
2
3
4

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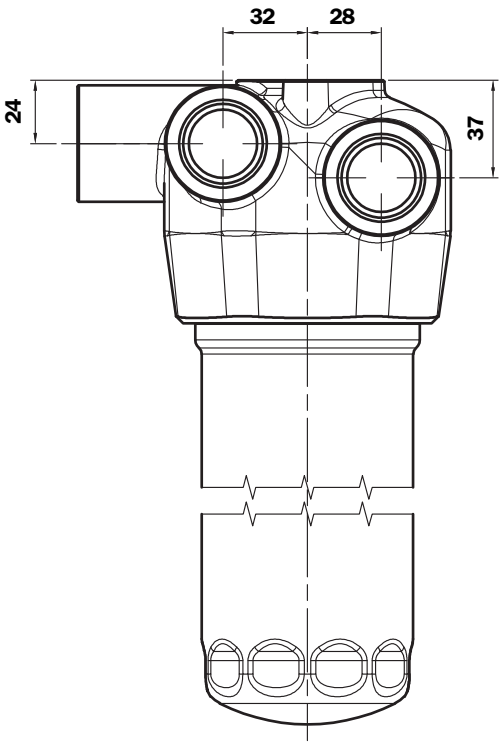
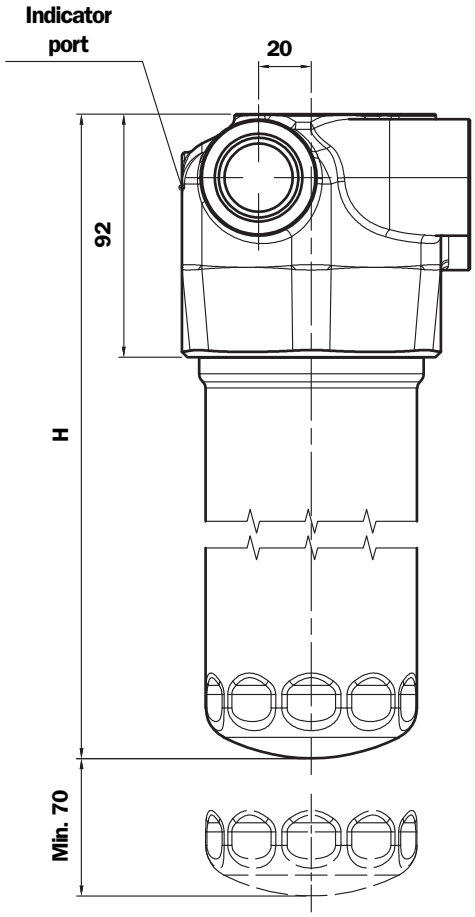
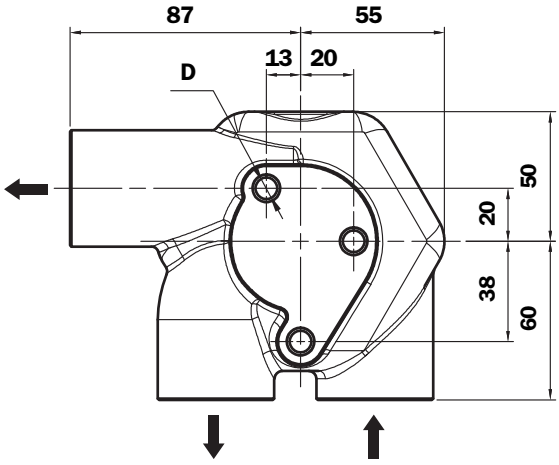
LMP 124



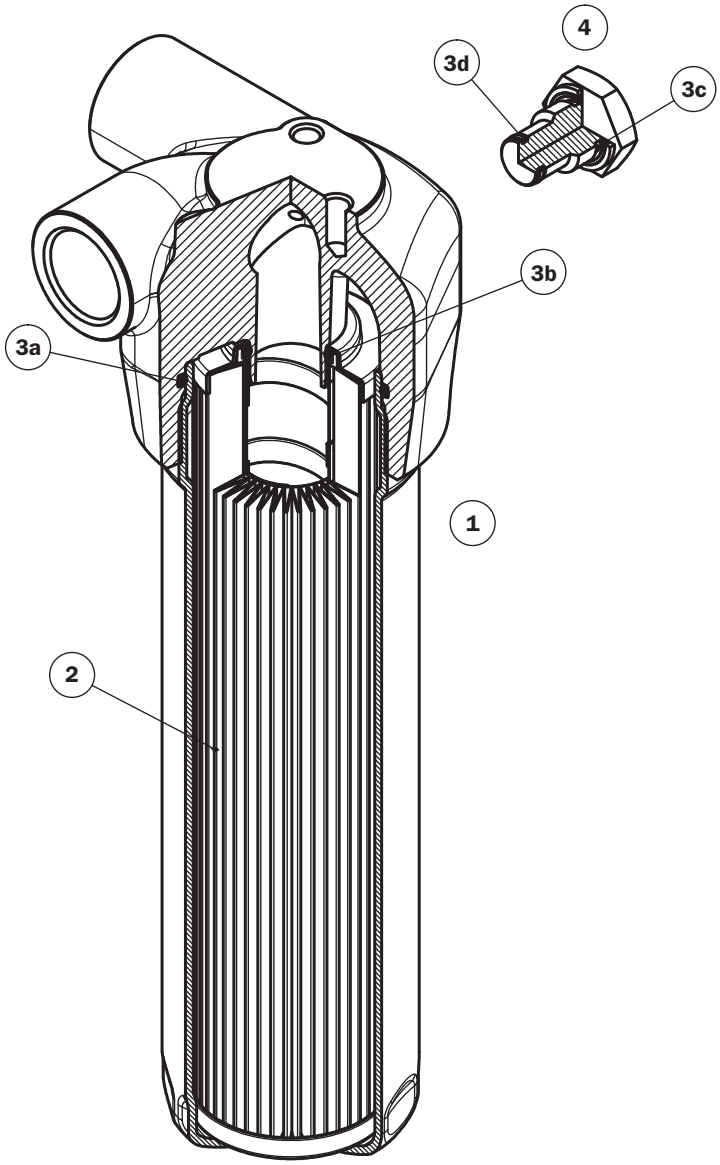




LMP 124

Length Filter	H mm
1	182
2	215
3	265
4	365

St.	Connection A - B - C	Fixing holes D
B	G 1"	M10 x depth 12 mm
F	SAE 16	3/8" UNC x depth 12 mm



Item	Description	Q.ty	FILTER Series LMP 124	
1	Filter assembly	1	See order table	
2	Filter element	1	See order table	
3	Seals Kit	1	NBR 02050478	FPM 02050479
3a	O-Ring for housing	1	O-R 4312 Ø 78,97 x 3,53	
3b	O-Ring for filter element	1	O-R 4125 Ø 31,34 x 3,53	
3c	Seal for indicator	1	NBR 01030058	FPM 01030046
3d	O-Ring for indicator	1	O-R 2050 Ø 12,42 x 1,78	
4	Indicator connection plug	1	T2H	T2V
-	Indicators	1	See order table	

LMP 124

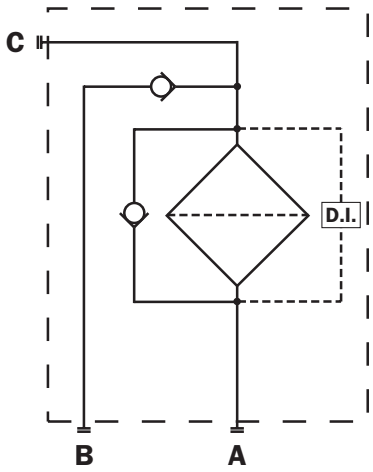
Style C - D - E - F

LMP 124

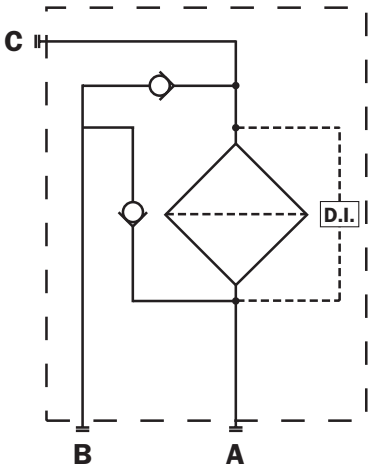
Style G - H

Symbols

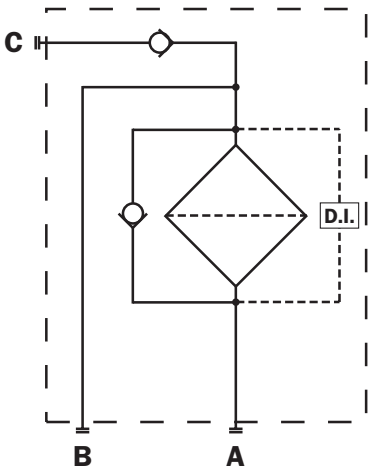
Style C
LMP 124



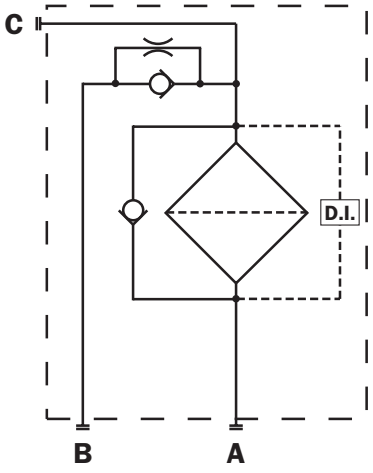
Style E
LMP 124



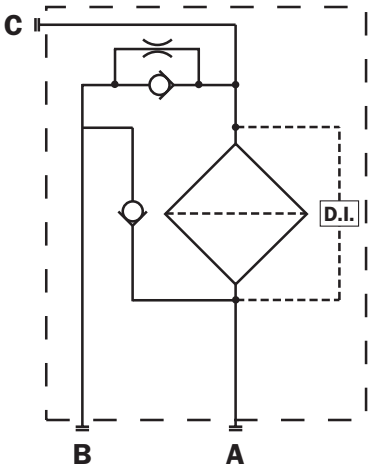
Style G
LMP 124



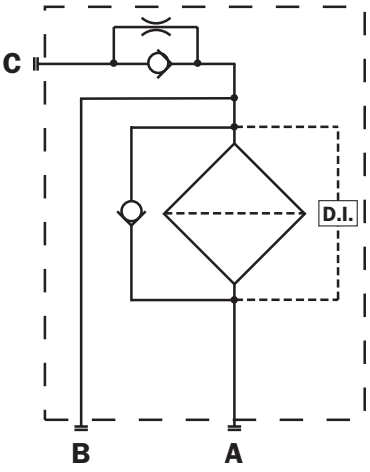
Style D
LMP 124



Style F
LMP 124



Style H
LMP 124



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Ordering information LMP 124

Filter assembly
LMP

	1	2	3	4	5	6	7	8	9
	☐	☐	☐	☐	☐	☐	☐	☐	☐
Example: LMP	**124**	**2**	**C**	**A**	**B**	**2**	**A10**	**N**	**P01**

Filter element
CU110

	2	7	4	8	9
	☐	☐	☐	☐	☐
Example: CU110	**2**	**A10**	**A**	**N**	**P01**

1 - Style

Filter	Filter element
124	110

2 - Filter length

- 1
- 2
- 3
- 4

3 - Valves

- C
- D
- E
- F
- G
- H

see “SYMBOLS” (ref. to page 32)

4 - Filter seals

A	NBR
V	FPM
W	NBR (Compatible with fluid HFA, HFB, HFC)
	On request

5 - Connection

Type	MULTIPORT
B	G 1”
F	SAE 16

6 - Indicator port

1	No
2	Port G 1/8” switch For pressure switch
3	Port G 1/4” For pressure switch
4	Differential indicator port

7 - Filter element

A10	Inorganic microfibre 10 µ	Absolute filtration ßx (c) ≥ 1000
A16	Inorganic microfibre 16 µ	
A25	Inorganic microfibre 25 µ	

8 - Max filter element differential pressure

N	Δp 20 bar

9 - Option

P01	MP Filtri standard
Pxx	Customer request

DIFFERENTIAL INDICATORS (see page 120)

Recommended maximum flow rate "MULTIPORT"

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Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 0.7 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.

Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
LMP 110 - 119	1	40	42	63	68	83	114	153	111
	2	49	57	80	82	97	130	155	128
	3	45	69	88	98	118	135	158	133
	4	66	98	112	117	136	140	160	140

Flow rate l/min

Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
LMP 112	1	36	37	55	57	65	85	112	83
	2	43	49	65	67	75	94	114	93
	3	54	58	70	76	87	96	115	95
	4	66	76	87	88	96	98	115	98

Flow rate l/min

Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
LMP 116	1	36	37	53	56	64	80	95	77
	2	43	47	64	65	72	87	96	86
	3	55	56	67	73	83	89	97	88
	4	63	72	79	83	87	92	98	90

Flow rate l/min

Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
LMP 120	1	39	42	66	69	87	129	187	126
	2	48	57	86	88	108	153	187	150
	3	67	72	97	110	136	161	188	158
	4	88	108	128	135	162	170	190	168

Flow rate l/min

Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
LMP 122	1	42	44	70	74	92	137	205	132
	2	52	61	90	91	115	163	205	159
	3	72	77	100	113	141	173	208	169
	4	93	113	133	143	172	180	215	178

Flow rate l/min

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SERIES

CLOGGING INDICATORS

MPFILTRI®

Production summary

Contamination monitoring products

- Calibrated on test rigs manufactured and certified to ISO 11943 based on methods from ISO 11171
- On-line and In-line counting to 400 bar
- Bottle sampler options
- Mobile designs RS 232 - RS 485 digital bus interface

Suction filters

- Flow rates to 620 l/min

Mounting:

- Tank immersed
- In-Line
- In tank with shut off valve
- In tank with flooded suction

Return filters

- Flow rates to 3000 l/min
- Pressure to 20 bar

Mounting:

- In-Line
- Tank top
- In single and duplex designs

Pressure filters

- Flow rates to 700 l/min
- Pressure from 110 bar to 560 bar

Mounting:

- In-Line
- Manifold
- In single and duplex designs

Spin-On filters

- Flow rates to 300 l/min
- Pressure to 35 bar

Mounting:

- In-Line
- Tank top

Stainless Steel Pressure filters

- Flow rates to 100 l/min
- Pressure from 350 bar to 700 bar

Mounting:

- In-Line
- Manifold
- In single and duplex designs

In-Line filters

- Flow rates to 3000 l/min
- Pressure to 80 bar

Mounting:

- In-Line
- Parallel manifold version
- In single and duplex designs

Filtration units

- Flow rates from 15 l/min to 200 l/min
- In static and mobile style

Accessories

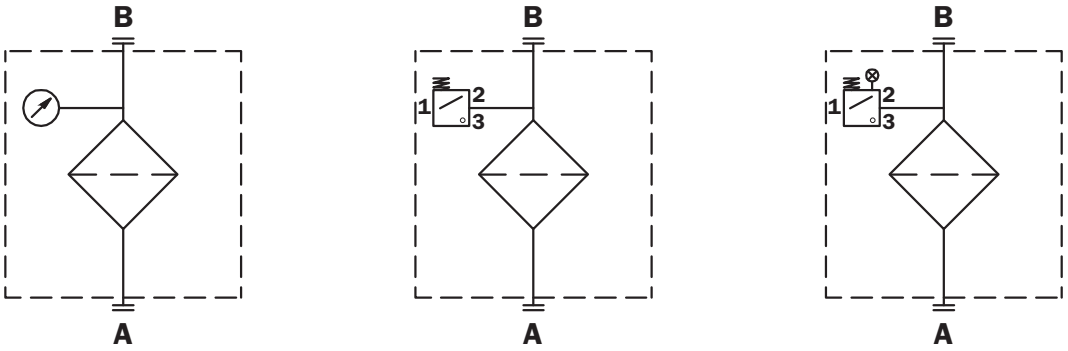
- Oil filler and air breather plugs
- Optical and electrical level gauges
- Pressure gauge valve selectors
- Pipe fixing brackets
- Pressure gauges

Mechanical Products

- Aluminium bell housings for motors from 0.12 kW to 400 kW
- Couplings in Aluminium - Cast Iron - Steel
- Damping rings
- Support feet
- Aluminium tanks
- Inspection doors

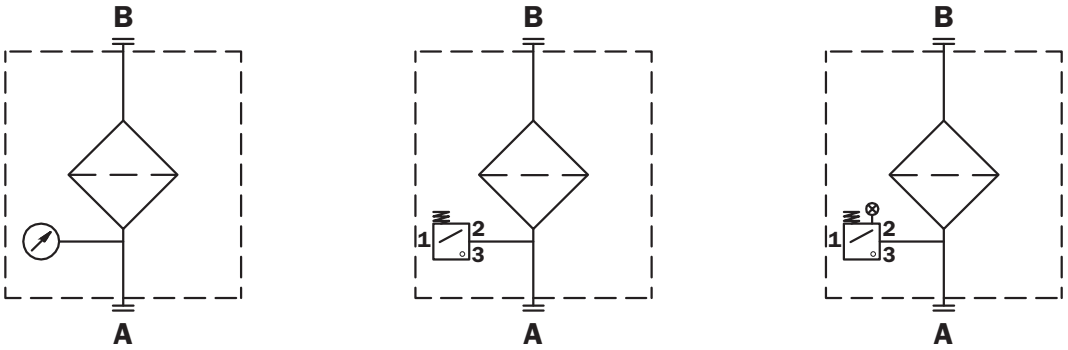
VACUUM INDICATORS

Vacuum indicators are used on the Suction line to check the efficency of the filter element.
They measure the pressure downstream of the filter element.
Standard items are produced with R 1/4" EN 10226 connection.
Available products with R 1/8" EN 10226 to be fitted on MPS series.



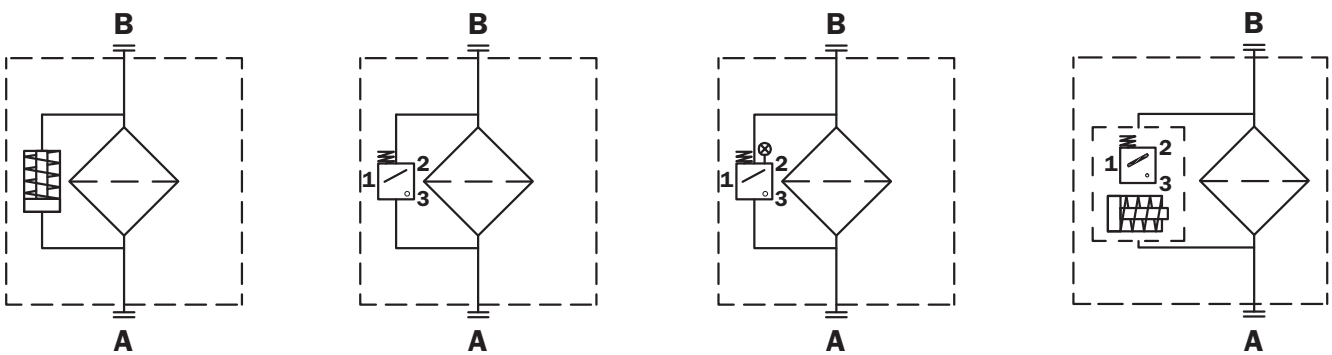
BAROMETRIC INDICATORS

Pressure indicators are used on the Return line to check the efficency of the filter element.
They measure the pressure upstream of the filter element.
Standard items are produced with R 1/8" EN 10226 connection.



DIFFERENTIAL INDICATORS

Differential indicators are used on the Pressure line to check the efficency of the filter element.
They measure the pressure upstream and downstream of the filter element (differential pressure).
Standard items are produced with special connection G 1/2" size.
Also available in Stainless Steel models.



Filter series	VISUAL INDICATOR	ELECTRICAL INDICATOR	ELECTRICAL/VISUAL INDICATOR	ELECTRONIC INDICATOR
Suction filters				
SF2 250 - 251 - 350 SF2 500 - 501 - 502 - 503 - 504 - 505 SF2 510 - 535 - 540 FAS	VVA16P01 VVR16P01	VEA21AA50P01	VLA21AA51P01 VLA21AA52P01 VLA21AA53P01 VLA21AA71P01	
Return filters				
MPF - MPT with bypass 1,75 bar MPH with bypass 1,75 bar	BVA14P01 BVR14P01 BVP15HAP01 BVP15HMP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01	
MPF - MPT with bypass 3 bar MPH with bypass 2,5 bar FRI 255 RF2 250	BVA25P01 BVR25P01 BVP20HAP01 BVP20HMP01	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01	
FRI 025 - 040 - 100 - 250 - 630 - 850	DVA20xP01 DVM20xP01	DEA20xA50P01 DEM20xAxxP01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01	DTA20xF70P01
Suction/Return filters				
MRS 116 - 165 - 166 Suction line	VVB16P01 VVS16P01	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01	
MRS 116 - 165 - 166 Return line	BVA14P01 BVR14P01 BVP15HAP01 BVP15HMP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01	
Spin-On filters				
MPS 050 - 070 - 100 - 150 MPS 200 - 250 - 300 - 350 Suction line	VVB16P01 VVS16P01	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01	
MPS 050 - 070 - 100 - 150 MPS 200 - 250 - 300 - 350 MST 050 - 070 - 100 - 150 Return line	BVA14P01 BVR14P01 BVP15HAP01 BVP15HMP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01	
MPS 051 - 071 - 101 - 151 MPS 301 - 351 MSH 050 - 070 - 100 - 150 In-line	DVA12xP01 DVM12xP01	DEA12xA50P01 DEM12xAxxP01	DLA12xA51P01 DLA12xA52P01 DLA12xA71P01 DLE12xA50P01 DLE12xF50P01	

Filter series	VISUAL INDICATOR	ELECTRICAL INDICATOR	ELECTRICAL/VISUAL INDICATOR	ELECTRONIC INDICATOR
Low Pressure In-Line filters				
LMP 110 - 112 - 116 - 118 - 119 LMP 120 - 122 - 123 LMP 210 - 211 LMP 400 - 401 - 430 - 431 LMP 900 - 901 - 950 - 951 LMD 400 - 401 - 431 - 951 With bypass valve	DVA20xP01 DVM20xP01	DEA20xA50P01 DEM20xAxxP01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01	DTA20xF70P01
LMP 110 - 112 - 116 - 118 - 119 LMP 120 - 122 - 123 LMP 210 - 211 LMP 400 - 401 - 430 - 431 LMP 900 - 901 - 950 - 951 LMD 400 - 401 - 431 - 951 MPD 250 - 251 Without bypass valve	DVA50xP01 DVM50xP01	DEA50xA50P01 DEM50xAxxP01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01 DLE50xA50P01 DLE50xF50P01	DTA50xF70P01
High Pressure In-Line filters				
FMP 039 - 065 - 135 - 320 FMM 050 FHP 010 - 011 - 065 - 135 - 320 - 500 FHB 050 - 135 - 320 FHM 006 - 007 - 010 - 050 - 135 - 320 - 500 FHF 325 FHD 021 - 051 - 326 - 333 With bypass valve	DVA50xP01 DVM50xP01	DEA50xA50P01 DEM50xAxxP01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01 DLE50xA50P01 DLE50xF50P01	DTA50xF70P01
FMP 039 - 065 - 135 - 320 FMM 050 FHP 010 - 011 - 065 - 135 - 320 - 500 FHB 050 - 135 - 320 FHM 006 - 007 - 010 - 050 - 135 - 320 - 500 FHF 325 FHD 021 - 051 - 326 - 333 Without bypass valve	DVA70xP01 DVM70xP01	DEA70xA50P01 DEM70xAxxP01	DLA70xA51P01 DLA70xA52P01 DLA70xA71P01 DLE70xA50P01 DLE70xF50P01	DTA70xF70P01
Stainless Steel High Pressure In-Line filters				
FZB 039 FZP 039 - 136 FZH 010 - 011 - 039 With bypass valve	DVX50xP01 DVY50xP01	DEX50xA50P01	DLX50xA51P01 DLX50xA52P01 DLY50xA50P01	
FZB 039 FZP 039 - 136 FZH 010 - 011 - 039 Without bypass valve	DVX70xP01 DVY70xP01	DEX70xA50P01	DLX70xA51P01 DLX70xA52P01 DLY70xA50P01	

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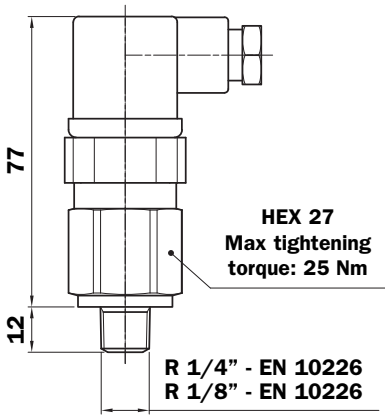
VEA - VEB



Available connections:
R 1/4" EN 10226 (VEA21AA50P01)
R 1/8" EN 10226 (VEB21AA50P01)

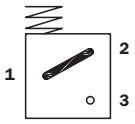
Electrical Vacuum Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

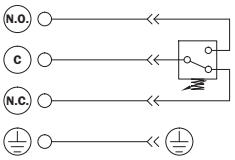
Technical data:
- Indicator type: Electrical vacuum indicator
- Setting pressure: -0,21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 5 A / 14 VDC
  4 A / 30 VDC
  5 A / 125 VAC
  5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529
- Available Atex product Ex II 1GD Ex ia IIC Tx Ex ia IIIC Tx°C X

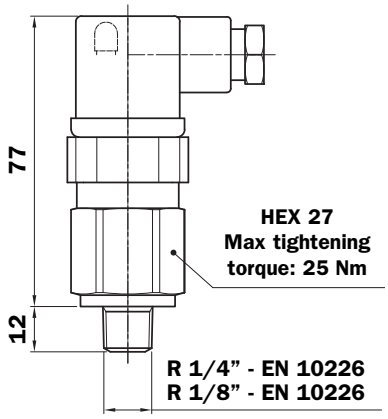
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



VLA - VLB



Available connections:
R 1/4" EN 10226 (VLA21AAxxP01)
R 1/8" EN 10226 (VLB21AAxxP01)

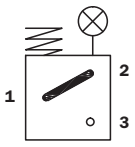
Electrical/Visual Vacuum Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

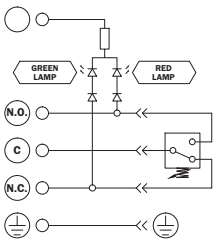
Technical data:
- Indicator type: Electrical/Visual vacuum indicator
- Setting pressure: -0,21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 51: 0,8 A / 24 VDC
  52: 0,2 A / 115 VDC
  53: 4 A / 230 VDC
- Electrical connections: 51 - EN 175301-803 (24 VDC lamps)
  52 - EN 175301-803 (110 VDC lamps)
  53 - EN 175301-803 (230 VAC lamps)
- Protection degree: IP 65 in according to EN 60529

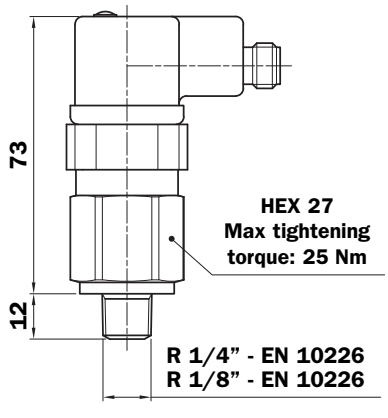
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



VLA - VLB



Available connections:
R 1/4" EN 10226 (VLA21AA71P01)
R 1/8" EN 10226 (VLB21AA71P01)

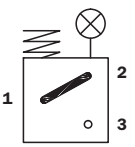
Electrical/Visual Vacuum Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

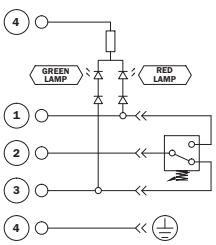
Technical data:
- Indicator type: Electrical/Visual vacuum indicator
- Setting pressure: -0,21 bar ±10%
- Max working pressure: 10 bar
- Proof pressure: 15 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0,4 A / 24 VDC
- Electrical connections: 71 - M12 IEC 61076-2-101 (24 VDC lamps)
- Protection degree: IP 65 in according to EN 60529

HYDRAULIC SYMBOL

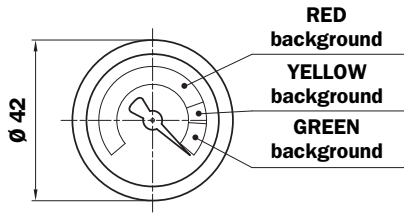


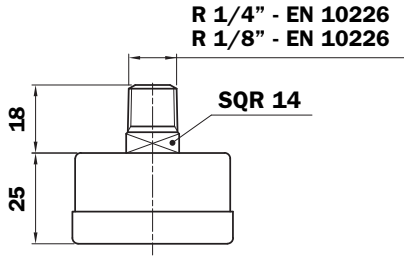
ELECTRICAL SYMBOL



VACUUM INDICATORS

VVA - VVB





Available connections:
R 1/4" EN 10226 (VVA16P01)
R 1/8" EN 10226 (VVB16P01)

Axial Vacuum Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub Cu-alloy soft soldered

Technical data:

- Indicator type: Axial vacuum gauge
- Max working pressure: Static: 7 bar
Fluctuating: 6 bar
Short time: 10 bar
- Working temperature: From -40°C to +60°C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

HYDRAULIC SYMBOL

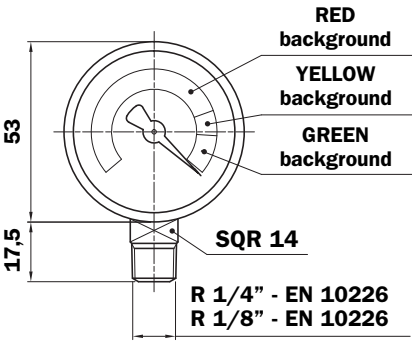
GRADUATED DISPLAY

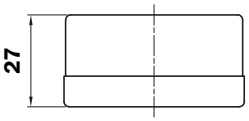
GREEN BACKGROUND
(from 0 to -12 cmHg)
Clean filter element

YELLOW BACKGROUND
(from -12 to -18 cmHg)
Warning

RED BACKGROUND
(from -18 to -76 cmHg)
Bypass

VVR - VVS





Available connections:
R 1/4" EN 10226 (VVR16P01)
R 1/8" EN 10226 (VVS16P01)

Radial Vacuum Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub Cu-alloy soft soldered

Technical data:

- Indicator type: Radial vacuum gauge
- Max working pressure: Static: 7 bar
Fluctuating: 6 bar
Short time: 10 bar
- Working temperature: From -40°C to +60°C
- Compatibility with fluids: Mineral oils, Synthetic fluids
HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 31 in according to EN 60529

HYDRAULIC SYMBOL

GRADUATED DISPLAY

GREEN BACKGROUND
(from 0 to -12 cmHg)
Clean filter element

YELLOW BACKGROUND
(from -12 to -18 cmHg)
Warning

REDBACKGROUND
(from -18 to -76 cmHg)
Bypass

findynamica
drive and control products

Ordering information VE - VL - VV

Series VE	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**VE**	**A**	**21**	**A**	**A**	**50**	**P01**

Series VL	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**VL**	**A**	**21**	**A**	**A**	**52**	**P01**

Series VV	1	2	3	7
	☐	☐	☐	☐
Example:	**VV**	**A**	**16**	**P01**

1 - Series

- **VE** Electrical indicator
- **VL** Electrical/Visual indicator
- **VV** Visual indicator

2 - Type

VE - VL series

- **A** R 1/4" EN 10226 connection
- **B** R 1/8" EN 10226 connection

VV series

- **A** Axial vacuumeter R 1/4" EN 10226 connection
- **B** Axial vacuumeter R 1/8" EN 10226 connection
- **R** Radial vacuumeter R 1/4" EN 10226 connection
- **S** Radial vacuumeter R 1/8" EN 10226 connection

3 - Setting pressure

VEA - VLA series

- **21** -0,21 bar

VVA - VVR series

- **16** -0,16 bar

4 - Seals (excluded for VV)

- **A** NBR
- ☐ On request

5 - Thermostat (excluded for VV)

- **A** Without thermostat

6 - Electrical connection (excluded for VV)

VEA series

- **50** EN 175301-803 connector

VLA series

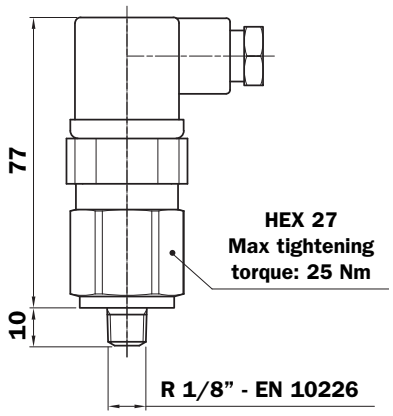
- **51** EN 175301-803 clear connector with 24 V lamps
- **52** EN 175301-803 clear connector with 110 V lamps
- **53** EN 175301-803 clear connector with 230 V lamps
- **71** M12 IEC 61076-2-101 clear connector with 24 V lamps

7 - Option

- **P01** MP Filtri standard
- **Pxx** Customer request

BAROMETRIC INDICATORS

BEA



Available setting:
1,5 bar ±10% (BEA15HA50P01)
2 bar ±10% (BEA20HA50P01)

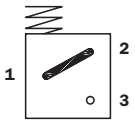
Electrical Pressure Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

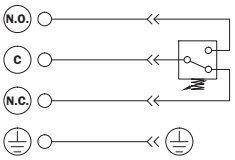
Technical data:
- Indicator type: Electrical pressure indicator
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 5 A / 14 VDC, 4 A / 30 VDC, 5 A / 125 VAC, 5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529
- Available Atex product II 1GD Ex ia IIC Tx Ex ia IIIC Tx°C X

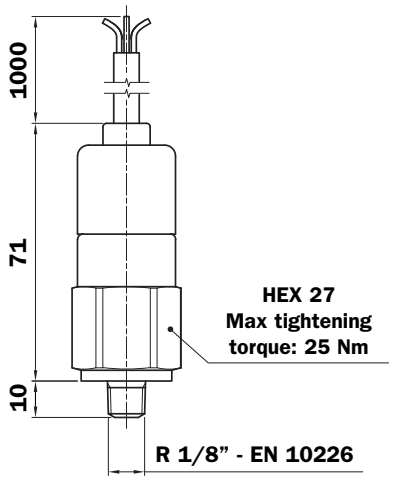
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BEM



Available setting:
1,5 bar ±10% (BEM15HA50P01)
2 bar ±10% (BEM20HA50P01)

Electrical Pressure Indicator

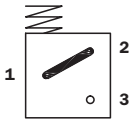
Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR

Technical data:
- Indicator type: Electrical pressure indicator
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

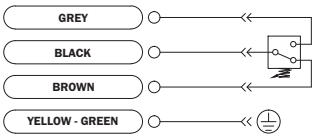
Electrical data:
- Resistive load: 5 A / 14 VDC, 4 A / 30 VDC, 5 A / 125 VAC, 5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 67 in according to EN 60529

On request this indicator can be provided with main connectors in use for wirings.

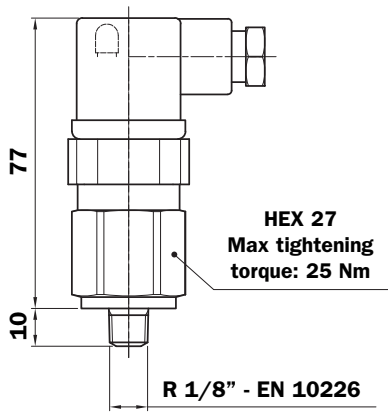
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BLA



Available setting:
1,5 bar ±10% (BLA15HAxxP01)
2 bar ±10% (BLA20HAxxP01)

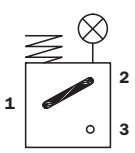
Electrical/Visual Pressure Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

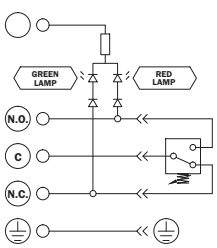
Technical data:
- Indicator type: Electrical/Visual pressure indicator
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 51: 0,8 A / 24 VDC, 52: 0,2 A / 115 VDC, 53: 4 A / 230 VDC
- Electrical connections: 51 - EN 175301-803 (24 VDC lamps), 52 - EN 175301-803 (110 VDC lamps), 53 - EN 175301-803 (230 VAC lamps)
- Protection degree: IP 65 in according to EN 60529

HYDRAULIC SYMBOL

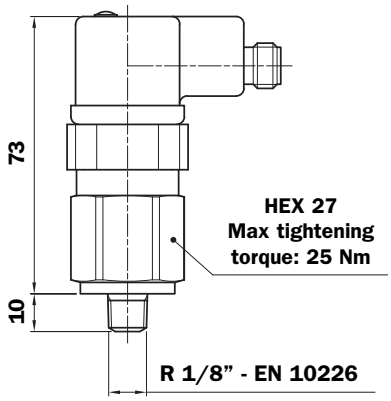


ELECTRICAL SYMBOL



BAROMETRIC INDICATORS

BLA



Available setting:
1,5 bar ±10% (BLA15HA71P01)
2 bar ±10% (BLA20HA71P01)

Electrical/Visual Pressure Indicator

Materials:

- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

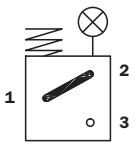
Technical data:

- Indicator type: Electrical/Visual pressure indicator
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25°C to +80°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

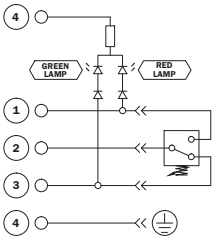
Electrical data:

- Resistive load: 0,4 A / 24 VDC
- Electrical connections: 71 - M12 IEC 61076-2-101 (24 VDC lamps)
- Protection degree: IP 65 in according to EN 60529

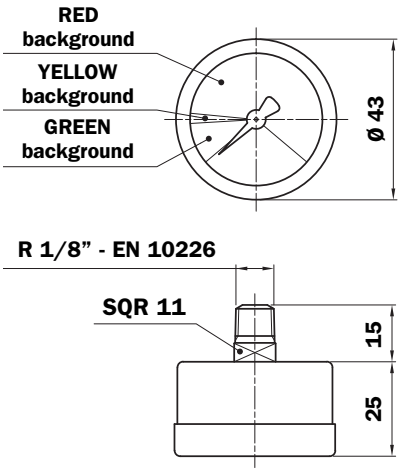
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



BVA



Available setting:
1,4 bar ±10% (BVA14P01)
2,5 bar ±10% (BVA25P01)

Axial Pressure Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub cu-alloy soft soldered

Technical data:

- Indicator type: Axial pressure gauge
- Max working pressure: Static: 7 bar
  Fluctuating: 6 bar
  Short time: 10 bar
- Working temperature: From -40°C to +60°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 65 in according to EN 60529

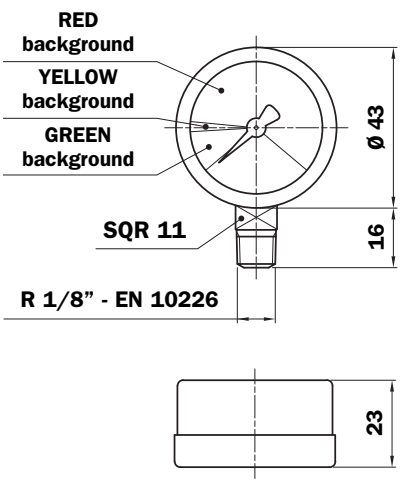
HYDRAULIC SYMBOL

GRADUATED DISPLAY

BVA14P01
GREEN BACKGROUND (from 0 to 1,4 bar)
Clean filter element
YELLOW BACKGROUND (from 1,4 to 1,7 bar)
Warning
RED BACKGROUND (from 1,7 to 10 bar)
Bypass

BVA25P01
GREEN BACKGROUND (from 0 to 2,5 bar)
Clean filter element
YELLOW BACKGROUND (from 2,5 to 3 bar)
Warning
RED BACKGROUND (from 3 to 10 bar)
Bypass

BVR



Available setting:
1,4 bar ±10% (BVR14P01)
2,5 bar ±10% (BVR25P01)

Radial Pressure Gauge

Materials:

- Case: Painted Steel
- Window: Clear plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tub cu-alloy soft soldered

Technical data:

- Indicator type: Radial pressure gauge
- Max working pressure: Static: 7 bar
  Fluctuating: 6 bar
  Short time: 10 bar
- Working temperature: From -40°C to +60°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943
- Accuracy class: cl. 2.5
- Protection degree: IP 65 in according to EN 60529

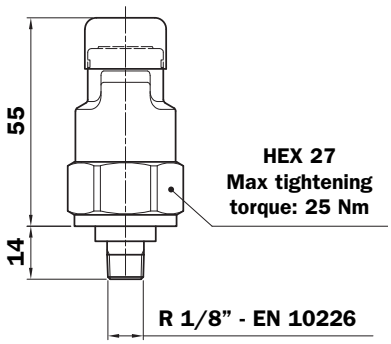
HYDRAULIC SYMBOL

GRADUATED DISPLAY

BVR14P01
GREEN BACKGROUND (from 0 to 1,4 bar)
Clean filter element
YELLOW BACKGROUND (from 1,4 to 1,7 bar)
Warning
RED BACKGROUND (from 1,7 to 10 bar)
Bypass

BVR25P01
GREEN BACKGROUND (from 0 to 2,5 bar)
Clean filter element
YELLOW BACKGROUND (from 2,5 to 3 bar)
Warning
RED BACKGROUND (from 3 to 10 bar)
Bypass

BVP - BVQ



Available setting:
1,5 bar ±10% (BVP15AP01 - BVQ15AP01)
2 bar ±10% (BVP20AP01 - BVQ20AP01)

Visual Pressure Indicator

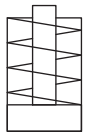
Materials:

• Body:	Brass
• Internal parts:	Nylon
• Seals:	NBR

Technical data:

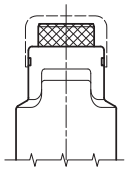
• Indicator type:	Visual pressure indicator
• Reset:	BVP - Automatic reset BVQ - Manual reset
• Max working pressure:	10 bar
• Proof pressure:	15 bar
• Working temperature:	From -25 °C to +80 °C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943
• Protection degree:	IP 45 in according to EN 60529

HYDRAULIC SYMBOL

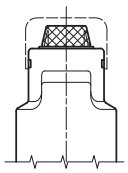


SIGNALS

GREEN BUTTON: INLET PRESSURE



RED BUTTON: CLOGGED FILTER ELEMENT



Ordering information BE - BL - BV

Series BE	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**BE**	**A**	**20**	**H**	**A**	**50**	**P01**

Series BL	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**BL**	**A**	**20**	**H**	**A**	**52**	**P01**

Series BV	1	2	3	4	7
	☐	☐	☐	☐	☐
Example:	**BV**	**P**	**20**	**H**	**P01**

Series BV	1	2	3	7
	☐	☐	☐	☐
Example:	**BV**	**A**	**14**	**P01**

1 - Series

BE	Electrical indicator
BL	Electrical/Visual indicator
BV	Visual indicator

2 - Type

BE series

A	Standard type
M	With wired connector

BL series

A	Standard type

BV series

A	Axial manometer
R	Radial manometer
P	Visual pressure indicator - Automatic reset
Q	Visual pressure indicator - Manual reset

3 - Setting pressure

BEA - BEM - BLA - BVP series

15	1,5 bar
20	2 bar

BVA - BVR series

14	1,4 bar
25	2,5 bar

4 - Seals (excluded for BVA - BVR)

H	HNBR
	On request

5 - Thermostat (excluded for BV)

A	Without thermostat

6 - Electrical connection (excluded for BV)

BEA series

50	EN 175301-803 connector

BEM series

41	Four core cable
	On request

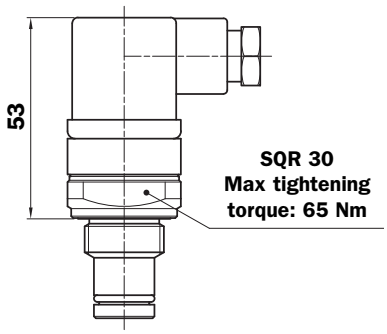
BLA series

51	EN 175301-803 clear connector with 24 V lamps
52	EN 175301-803 clear connector with 110 V lamps
53	EN 175301-803 clear connector with 230 V lamps
71	M12 IEC 61076-2-101 clear connector with 24 V lamps

7 - Option

P01	MP Filtri standard
Pxx	Customer request

DEA



Available setting:
1,2 bar ±10% (DEA12xA50P01)
2 bar ±10% (DEA20xA50P01)
5 bar ±10% (DEA50xA50P01)
7 bar ±10% (DEA70xA50P01)
9,5 bar ±10% (DEA95xA50P01)

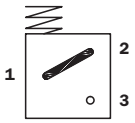
Electrical Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

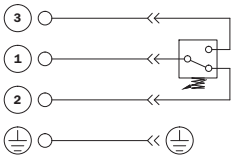
Technical data:
- Indicator type: Electrical differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0,2 A / 115 VDC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 66 in according to EN 60529 IP 69K in according to ISO 20653

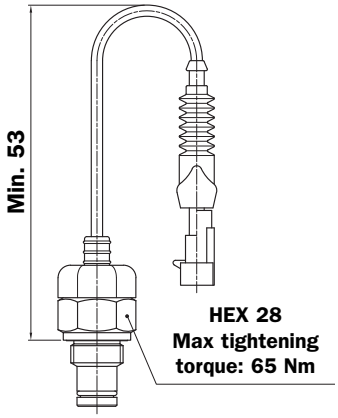
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available setting:
1,2 bar ±10% (DEM12xx10P01)
2 bar ±10% (DEM20xx10P01)
5 bar ±10% (DEM50xx10P01)
7 bar ±10% (DEM70xx10P01)
9,5 bar ±10% (DEM95xx10P01)

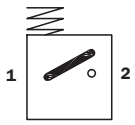
Electrical Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

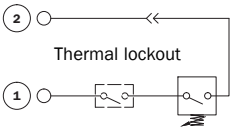
Technical data:
- Indicator type: Electrical differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0,2 A / 115 VDC
- Electrical connections: 10 - AMP Superseal series 1,5
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

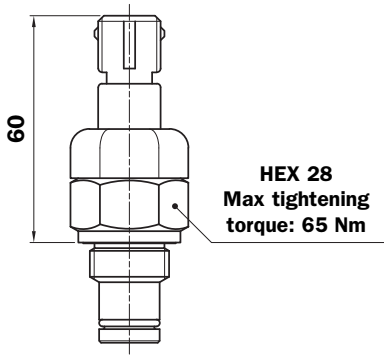
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available setting:
1,2 bar ±10% (DEM12xx20P01)
2 bar ±10% (DEM20xx20P01)
5 bar ±10% (DEM50xx20P01)
7 bar ±10% (DEM70xx20P01)
9,5 bar ±10% (DEM95xx20P01)

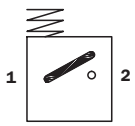
Electrical Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

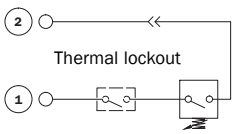
Technical data:
- Indicator type: Electrical differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0,2 A / 115 VDC
- Electrical connections: 20 - AMP Time junior
- Switching type: Normally open contacts (N.C. on request)
- Thermal lockout: Normally open up to 30°C (F option)
- Protection degree: IP 66 in according to EN 60529

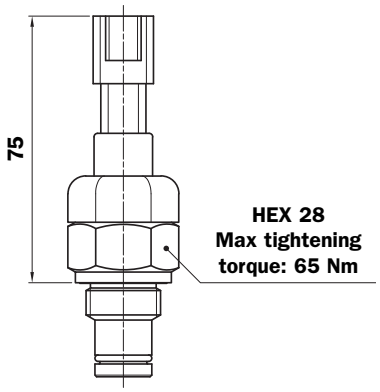
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available setting:
1,2 bar ±10% (DEM12xx30P01)
2 bar ±10% (DEM20xx30P01)
5 bar ±10% (DEM50xx30P01)
7 bar ±10% (DEM70xx30P01)
9,5 bar ±10% (DEM95xx30P01)

Electrical Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

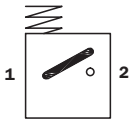
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

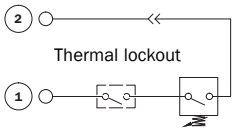
Electrical data:

• Resistive load:	0,2 A / 115 VDC
• Electrical connections:	30 - Deutsch DT-04-2-P
• Switching type:	Normally open contacts (N.C. on request)
• Thermal lockout:	Normally open up to 30°C (F option)
• Protection degree:	IP 66 in according to EN 60529

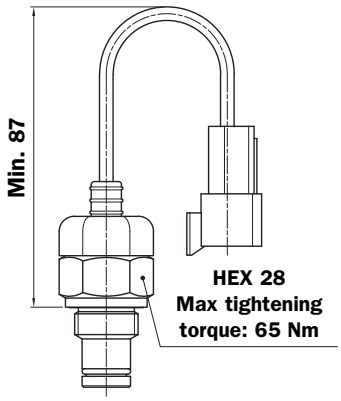
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DEM



Available setting:
1,2 bar ±10% (DEM12xx35P01)
2 bar ±10% (DEM20xx35P01)
5 bar ±10% (DEM50xx35P01)
7 bar ±10% (DEM70xx35P01)
9,5 bar ±10% (DEM95xx35P01)

Electrical Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

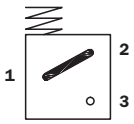
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

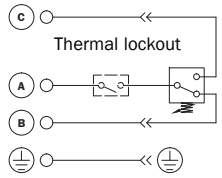
Electrical data:

• Resistive load:	0,2 A / 115 VDC
• Electrical connections:	35 - Deutsch DT-04-3-P
• Switching type:	SPDT contact
• Thermal lockout:	Normally open up to 30°C (F option)
• Protection degree:	IP 66 in according to EN 60529

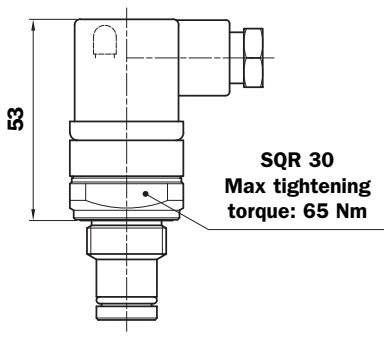
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLA



Available setting:
1,2 bar ±10% (DLA12xAxxP01)
2 bar ±10% (DLA20xAxxP01)
5 bar ±10% (DLA50xAxxP01)
7 bar ±10% (DLA70xAxxP01)
9,5 bar ±10% (DLA95xAxxP01)

Electrical/Visual Differential Indicator

Materials:

• Body:	Brass
• Internal parts:	Brass - Nylon
• Seals:	HNBR - FPM

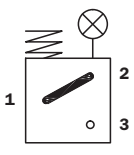
Technical data:

• Indicator type:	Electrical/Visual differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

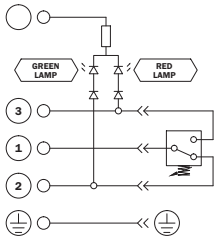
Electrical data:

• Resistive load:	51: 0,8 A / 24 VDC 52: 0,2 A / 115 VDC
• Electrical connections:	51 - EN 175301-803 (24 VDC lamps) 52 - EN 175301-803 (110 VDC lamps)
• Protection degree:	IP 66 in according to EN 60529 IP 69K in according to ISO 20653

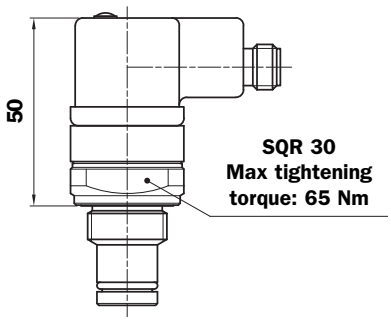
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLA



Available setting:
1,2 bar ±10% (DLA12xA71P01)
2 bar ±10% (DLA20xA71P01)
5 bar ±10% (DLA50xA71P01)
7 bar ±10% (DLA70xA71P01)
9,5 bar ±10% (DLA95xA71P01)

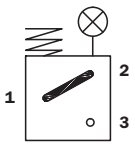
Electrical/Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

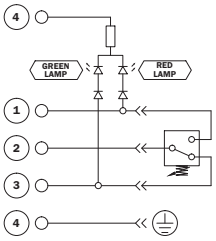
Technical data:
- Indicator type: Electrical/Visual differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 0,4 A / 24 VDC
- Electrical connections: 71 - M12 IEC 61076-2-101 (24 VDC lamps)
- Protection degree: IP 65 in according to EN 60529 IP 69K in according to ISO 20653

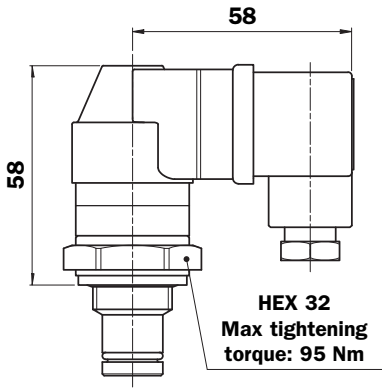
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLE



Available setting:
1,2 bar ±10% (DLE12VA50P01)
2 bar ±10% (DLE20VA50P01)
5 bar ±10% (DLE50VA50P01)
7 bar ±10% (DLE70VA50P01)
9,5 bar ±10% (DLE95VA50P01)

Electrical/Visual Differential Indicator

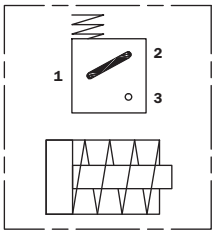
Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: FPM

Technical data:
- Indicator type: Electrical/Visual differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

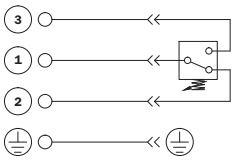
Electrical data:
- Resistive load: 5 A / 250 VAC
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529

Available the connector with lamps

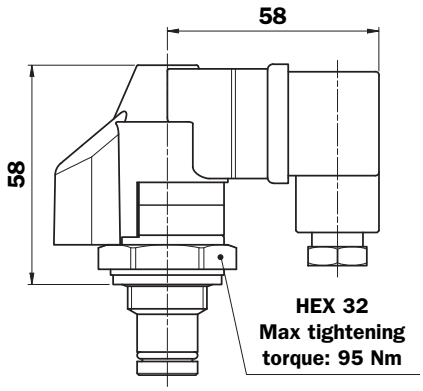
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLE



Available setting:
1,2 bar ±10% (DLE12VF50P01)
2 bar ±10% (DLE20VF50P01)
5 bar ±10% (DLE50VF50P01)
7 bar ±10% (DLE70VF50P01)
9,5 bar ±10% (DLE95VF50P01)

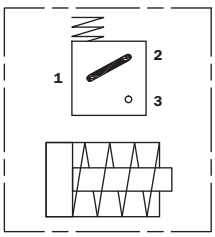
Electrical/Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: FPM

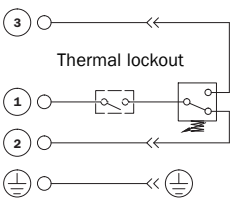
Technical data:
- Indicator type: Electrical/Visual differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Resistive load: 5 A / 250 VAC
- Thermal lockout setting: +30°C
- Electrical connections: 50 - EN 175301-803
- Protection degree: IP 65 in according to EN 60529

HYDRAULIC SYMBOL

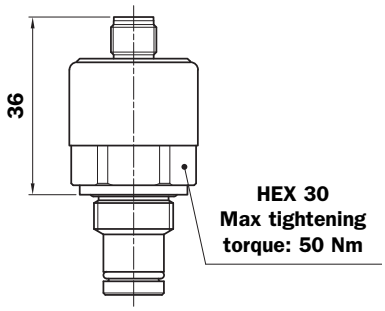


ELECTRICAL SYMBOL



DIFFERENTIAL INDICATORS

DTA



Available setting:
1,2 bar ±10% (DTA12xF70P01)
2 bar ±10% (DTA20xF70P01)
5 bar ±10% (DTA50xF70P01)
7 bar ±10% (DTA70xF70P01)
9,5 bar ±10% (DTA95xF70P01)

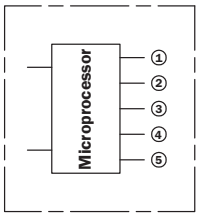
Electronic Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: NBR

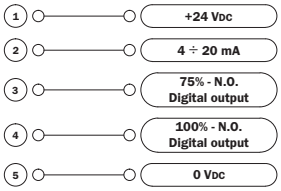
Technical data:
- Indicator type: Electronic differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

Electrical data:
- Power supply: 24 VDC
- Analogue output: From 4 to 20 mA
- Thermal lockout: 30°C (all output signals stalled up to 30°C)
- Protection degree: IP 67 in according to EN 60529

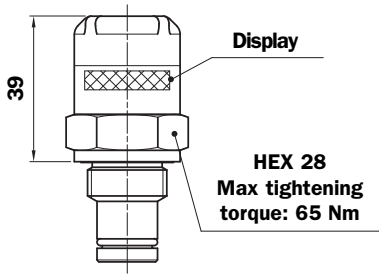
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DVA



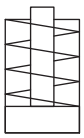
Available setting:
1,2 bar ±10% (DVA12xP01)
2 bar ±10% (DVA20xP01)
5 bar ±10% (DVA50xP01)
7 bar ±10% (DVA70xP01)
9,5 bar ±10% (DVA95xP01)

Visual Differential Indicator

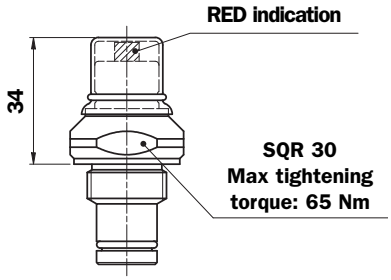
Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

Technical data:
- Indicator type: Visual differential indicator
- Reset: Automatic reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



DVM



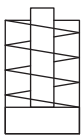
Available setting:
1,2 bar ±10% (DVM12xP01)
2 bar ±10% (DVM20xP01)
5 bar ±10% (DVM50xP01)
7 bar ±10% (DVM70xP01)
9,5 bar ±10% (DVM95xP01)

Visual Differential Indicator

Materials:
- Body: Brass
- Internal parts: Brass - Nylon
- Seals: HNBR - FPM

Technical data:
- Indicator type: Visual differential indicator
- Reset: Manual reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



Ordering information DE - DL - DV

Series	1	2	3	4	5	6	7
DE	☐	☐	☐	☐	☐	☐	☐
Example:	**DE**	**A**	**20**	**H**	**A**	**50**	**P01**
Series	**1**	**2**	**3**	**4**	**5**	**6**	**7**
DL	☐	☐	☐	☐	☐	☐	☐
Example:	**DL**	**A**	**20**	**H**	**A**	**52**	**P01**
Series	**1**	**2**	**3**	**4**	**5**	**6**	**7**
DT	☐	☐	☐	☐	☐	☐	☐
Example:	**DT**	**A**	**20**	**H**	**F**	**70**	**P01**

Series	1	2	3	4	7
DV	☐	☐	☐	☐	☐
Example:	**DV**	**A**	**20**	**H**	**P01**

1 - Series

DE	Electrical indicator
DL	Electrical/Visual indicator
DT	Electronic indicator
DV	Visual indicator

2 - Type

DE series

A	Standard type
M	With wired connector

DL series

A	Standard type
E	Standard type for High power supply

DT series

A	Standard type

DV series

A	Automatic reset
M	Manual reset

3 - Setting pressure

12	1,5 bar
20	2 bar
50	5 bar
70	7 bar
95	9,5 bar

4 - Seals

H	HNBR
	On request

5 - Thermostat (excluded for DV)

A	Without thermostat
F	With thermostat (Normally open up to 30°C) Option available only for DEM-DTA series

6 - Electrical connection (excluded for BV)

DEA - DLE series

50	EN 175301-803 connector

DEM series

10	AMP Superseal series 1,5 (Normally open contacts)
20	AMP Timer Junior (Normally open contacts)
30	Deutsch DT-04-2-P (Normally open contacts)
35	Deutsch DT-04-3-P (Change over contacts)
	On request

DLA series

51	EN 175301-803 clear connector with 24 V lamps
52	EN 175301-803 clear connector with 110 V lamps
71	M12 IEC 61076-2-101 clear connector with 24 V lamps

DTA series

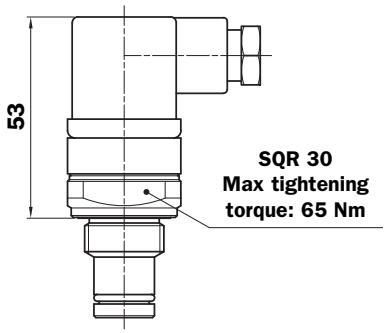
70	M12 IEC 61076-2-101 connector

7 - Option

P01	MP Filtri standard
Pxx	Customer request

STAINLESS STEEL DIFFERENTIAL INDICATORS

DEX



Available setting:
1,2 bar ±10% (DEX12xA50P01)
2 bar ±10% (DEX20xA50P01)
5 bar ±10% (DEX50xA50P01)
7 bar ±10% (DEX70xA50P01)
9,5 bar ±10% (DEX95xA50P01)

Electrical Differential Indicator

Materials:

• Body:	AISI 316L
• Internal parts:	AISI 316L - Nylon
• Seals:	HNBR - MFQ

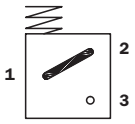
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

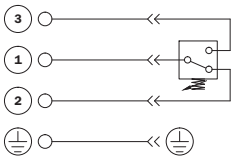
Electrical data:

• Resistive load:	0,2 A / 115 VDC
• Electrical connections:	50 - EN 175301-803
• Protection degree:	IP 66 in according to EN 60529 IP 69K in according to ISO 20653

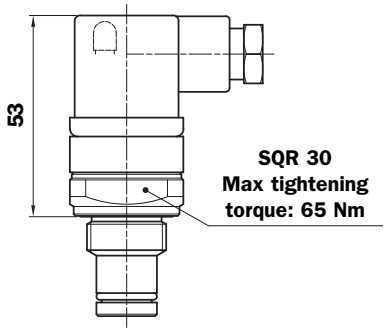
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLX



Available setting:
1,2 bar ±10% (DLX12xAxxP01)
2 bar ±10% (DLX20xAxxP01)
5 bar ±10% (DLX50xAxxP01)
7 bar ±10% (DLX70xAxxP01)
9,5 bar ±10% (DLX95xAxxP01)

Electrical/Visual Differential Indicator

Materials:

• Body:	AISI 316L
• Internal parts:	AISI 316L - Nylon
• Seals:	HNBR - MFQ

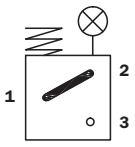
Technical data:

• Indicator type:	Electrical differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

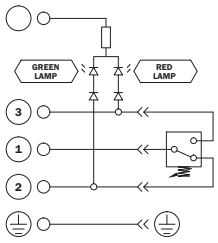
Electrical data:

• Resistive load:	51: 0,8 A / 24 VDC 52: 0,2 A / 115 VDC
• Electrical connections:	51 - EN 175301-803 (24 VDC lamps) 52 - EN 175301-803 (110 VDC lamps)
• Protection degree:	IP 66 in according to EN 60529 IP 69K in according to ISO 20653

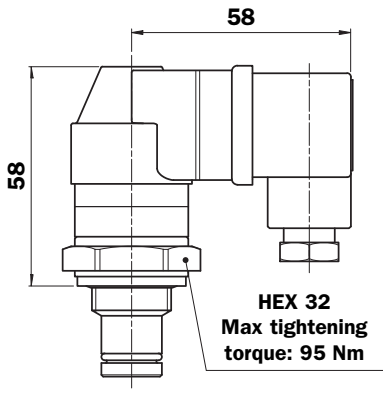
HYDRAULIC SYMBOL



ELECTRICAL SYMBOL



DLY



Available setting:
1,2 bar ±10% (DLY12VA50P01)
2 bar ±10% (DLY20VA50P01)
5 bar ±10% (DLY50VA50P01)
7 bar ±10% (DLY70VA50P01)
9,5 bar ±10% (DLY95VA50P01)

Electrical/Visual Differential Indicator

Materials:

• Body:	AISI 316L
• Internal parts:	AISI 316L - Nylon
• Seals:	FPM

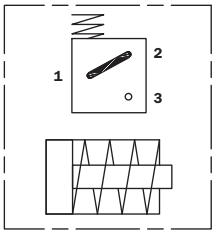
Technical data:

• Indicator type:	Electrical/Visual differential indicator
• Max working pressure:	420 bar
• Proof pressure:	630 bar
• Burst pressure:	1260 bar
• Working temperature:	From -25°C to +110°C
• Compatibility with fluids:	Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

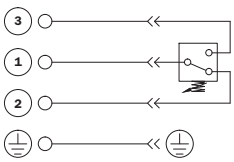
Electrical data:

• Resistive load:	5 A / 250 VAC
• Electrical connections:	50 - EN 175301-803
• Protection degree:	IP 65 in according to EN 60529

HYDRAULIC SYMBOL

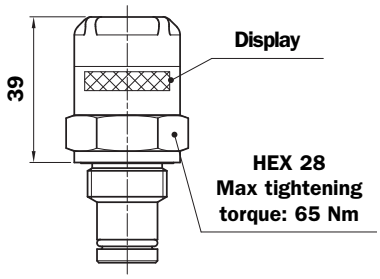


ELECTRICAL SYMBOL



STAINLESS STEEL DIFFERENTIAL INDICATORS

DVX



Available setting:
1,2 bar ±10% (DVX12xP01)
2 bar ±10% (DVX20xP01)
5 bar ±10% (DVX50xP01)
7 bar ±10% (DVX70xP01)
9,5 bar ±10% (DVX95xP01)

Visual Differential Indicator

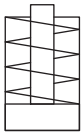
Materials:

- Body: AISI 316L
- Internal parts: AISI 316L - Nylon
- Seals: HNBR - MFQ

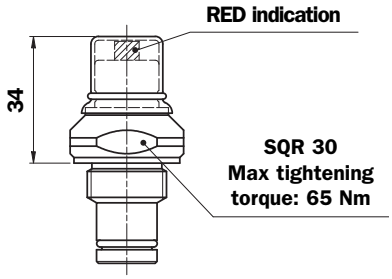
Technical data:

- Indicator type: Visual differential indicator with automatic reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



DVY



Available setting:
1,2 bar ±10% (DVY12xP01)
2 bar ±10% (DVY20xP01)
5 bar ±10% (DVY50xP01)
7 bar ±10% (DVY70xP01)
9,5 bar ±10% (DVY95xP01)

Visual Differential Indicator

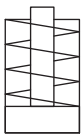
Materials:

- Body: AISI 316L
- Internal parts: AISI 316L - Aluminium
- Seals: HNBR - MFQ

Technical data:

- Indicator type: Visual differential indicator
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25°C to +110°C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC fluids in according to ISO 2943

HYDRAULIC SYMBOL



Ordering information DE - DL - DV

Series DE	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**DE**	**X**	**20**	**H**	**A**	**50**	**P01**

Series DL	1	2	3	4	5	6	7
	☐	☐	☐	☐	☐	☐	☐
Example:	**DL**	**X**	**20**	**H**	**A**	**52**	**P01**

Series DV	1	2	3	4	7
	☐	☐	☐	☐	☐
Example:	**DV**	**X**	**20**	**H**	**P01**

1 - Series

DE	Electrical indicator
DL	Electrical/Visual indicator
DV	Visual indicator

2 - Type

X	Standard type
Y	Optional type

3 - Setting pressure

12	1,5 bar
20	2 bar
50	5 bar
70	7 bar
95	9,5 bar

4 - Seals

H	HNBR
F	MFQ
	On request

5 - Thermostat (excluded for DV)

A	Without thermostat

6 - Electrical connection (excluded for DV)

DEX series

50	EN 175301-803 connector

DLA series

51	EN 175301-803 clear connector with 24 V lamps
52	EN 175301-803 clear connector with 110 V lamps
71	M12 IEC 61076-2-101 clear connector with 24 V lamps

7 - Option

P01	MP Filtri standard
Pxx	Customer request

VACUUM INDICATORS

Old code	New code
E0	VED20AA50P01
E0P01	VEB21AA50P01
E1	VEC20AA50P01
E1P01	VEA21AA50P01
E1P02	VEA21AA05P01
-	-
-	VVS16P01
VP01	VVR16P01
VOP01	VVA16P01
VSP01	VVB16P01

BAROMETRIC INDICATORS

Old code	New code
FE08H1AP01	BEA08HA50P01
FE08H1BP01	BLA08HA51P01
FE15H1AP01	BEA15HA50P01
FE15H1BP01	BLA15HA51P01
FE15H1DP01	BLA15HA53P01
FE15H1EP01	BEM15HA41P01
FE20H1AP01	BEA20HA50P01
FE20H1BP01	BLA20HA51P01
FE20H1CP01	BLA20HA52P01
FE20H1DP01	BLA20HA53P01
FE20H1EP01	BEM20HA41P01
FE25H1AP01	BEA25HA50P01
FE25H1BP01	BLA25HA51P01
VP15AAP01	BVP15HP01

Old code	New code
VP15AMP01	BVQ15HP01
VP20AAP01	BVP20HP01
VP20AMP01	BVQ20HP01
-	-
VRP01	BVA14P01
VR25P01	BVA25P01
V1P01	BVR14P01
-	BVR25P01

STAINLESS STEEL DIFFERENTIAL INDICATORS

Old code	New code
1EX	DLY12HA50P01 - DLY12VA50P01
E6X	DLY20HA50P01 - DLY20VA50P01
E6XE	DLY20EA50P01
E7X	DLY50HA50P01 - DLY50VA50P01
E8X	DLY70HA50P01 - DLY70VA50P01
-	-
K7X1HP01	DLX50HA51P01
K8X1HP01	DLX70HA51P01
-	-
N7X	DEX50HA50P01
N7XEP01	DEX50EA50P01
N8X	DEX70HA50P01
N8XEP01	DEX70EA50P01

Old code	New code
VB6FP01	DVY20FP01
VB6HP01	DVY20HP01
VB7FP01	DVY50FP01
VB7HP01	DVY50HP01
VB7VP01	DVY50VP01
VB8EP01	DVY70EP01
VB8FP01	DVY70FP01
VB8HP01	DVY70HP01
-	-
1VX	DVX12HP01 - DVX12VP01
V6X	DVX20HP01 - DVX20VP01
V7X	DVX50HP01 - DVX50VP01
V7XE	DVX50EP01
V8X	DVX70HP01 - DVX70VP01
V8XE	DVX70EP01

DIFFERENTIAL INDICATORS

Old code	New code
1E	DLE12HA50P01 - DLE12VA50P01
E6	DLE20HA50P01 - DLE20VA50P01
E6E	DLE20EA50P01
E6H	DLE20HA50P01
E7	DLE50HA50P01 - DLE50VA50P01
E7E	DLE50EA50P01
E7H	DLE50HA50P01
E8	DLE70HA50P01 - DLE70VA50P01
E8E	DLE70EA50P01
E8H	DLE70HA50P01
E9	DLE95HA50P01 - DLE95VA50P01
E9E	DLE95EA50P01
E9H	DLE95HA50P01
-	-
J1	DLE12HF50P01 - DLE12VF50P01
J6	DLE20HF50P01 - DLE20VF50P01
J7	DLE50HF50P01 - DLE50VF50P01
J8	DLE70HF50P01 - DLE70VF50P01
J9	DLE95HF50P01 - DLE95VF50P01
-	-
KR21HP01	DLA12HA51P01
KR21VP01	DLA12VA51P01
KR31HP01	DLA30HA51P01
KR61HP01	DLA20HA51P01
KR61VP01	DLA20VA51P01
KR62HP01	DLA20HA52P01
KR62VP01	DLA20VA52P01
KR71HP01	DLA50HA51P01
KR71VP01	DLA50VA51P01
KR72HP01	DLA50HA52P01
KR72VP01	DLA50VA52P01
KR81HP01	DLA70HA51P01
KR81VP01	DLA70VA51P01
KR82HP01	DLA70HA52P01
KR91HP01	DLA95HA51P01
-	-
NE2HTP01	DTA12HF70P01
NE2VSP01	DTA12VF70P01
NE6HSP01	DTA20HF70P01
NE6HTP01	DTA20HF70P01
NE6VSP01	DTA20VF70P01
NE6VTP01	DTA20VF70P01
NE7HSP01	DTA50HF70P01
NE7HTP01	DTA50HF70P01
NE7VSP01	DTA50VF70P01
NE7VTP01	DTA50VF70P01
NE8HSP01	DTA70HF70P01
NE8HTP01	DTA70HF70P01
NE8VSP01	DTA70VF70P01
NE8VTP01	DTA70VF70P01
NE9VTP01	DTA95VF70P01

Old code	New code
NM6HA11P01	DEM20HA10P01
NM6HA31P01	DEM20HA30P01
NM6HA36P01	DEM20HA31P01
NM7HA11P01	DEM50HA10P01
NM7HA21P01	DEM50HA20P01
NM7HA31P01	DEM50HA30P01
NM7HA32P01	DEM50HA35P01
NM7HC32P01	DEM50HF35P01
NM7VA11P01	DEM50VA10P01
NM7VC11P01	DEM50VF10P01
NM8HA11P01	DEM70HA10P01
NM8HA31P01	DEM70HA30P01
NM8HA36P01	DEM70HA32P01
-	-
NR2HP01	DEA12HA50P01
NR2VP01	DEA12VA50P01
NR6EP01	DEA20EA50P01
NR6HP01	DEA20HA50P01
NR6VP01	DEA20VA50P01
NR7HP01	DEA50HA50P01
NR7VP01	DEA50VA50P01
NR8EP01	DEA70EA50P01
NR8HP01	DEA70HA50P01
NR8VP01	DEA70VA50P01
NR9HP01	DEA95HA50P01
NR9VP01	DEA95VA50P01
-	-
U3HP01	DVM30HP01
U6HP01	DVM20HP01
U6VP01	DVM20VP01
U7HP01	DVM50HP01
U7VP01	DVM50VP01
U8VP01	DVM70VP01
-	-
1V	DVA12HP01 - DVA12VP01
V6	DVA20HP01 - DVA20VP01
V6E	DVA20EP01
V6H	DVA20HP01
V7	DVA50HP01 - DVA50VP01
V7E	DVA50EP01
V7H	DVA50HP01
V8	DVA70HP01 - DVA70VP01
V8E	DVA70EP01
V9	DVA95HP01 - DVA95VP01
V9E	DVA95EP01
-	-
Z2HP01	DVM12HP01
Z2VP01	DVM12VP01
Z6EP01	DVM20EP01
Z6HP01	DVM20HP01
Z6VP01	DVM20VP01
Z7HP01	DVM50HP01
Z7VP01	DVM50VP01
Z7XHP01	DVY70HP01
Z8EP01	DVM70EP01
Z8HP01	DVM70HP01
Z8VP01	DVM70VP01
Z9HP01	DVM95HP01