Filtration Group®
Filtering The World

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Duplex Filter
Pi 251

Nominal pressure 10/16 bar (140/230 psi), nominal size 2000

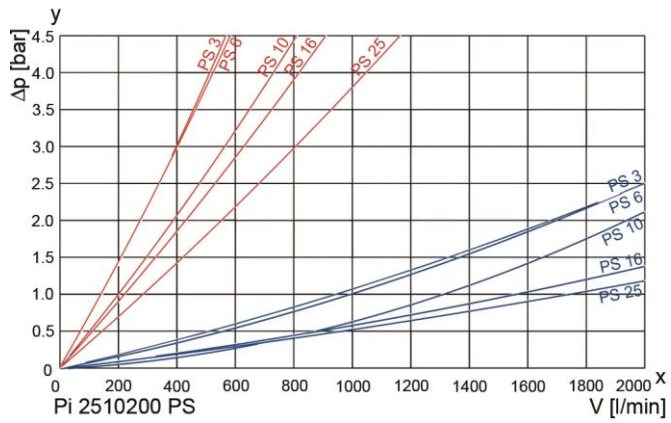
1. Features

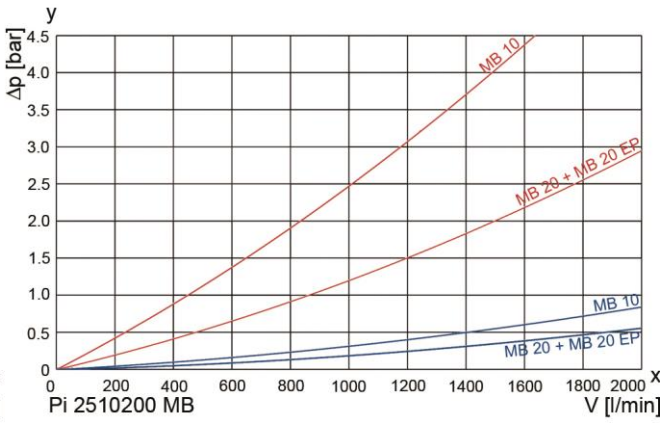
High performance filters for modern hydraulic, lubrication and fuel systems

- Compact design
- Minimal pressure drop through optimal flow design
- Visual/electrical/electronic maintenance indicator
- Extensive range of accessories
- Quality filters, easy to service
- Equipped with highly efficient PS and MB filter elements
- Beta rated elements according to ISO 16889 multipass test
- Elements with high differential pressure stability and dirt holding capacity
- Worldwide distribution

2. Flow rate/pressure drop curve (for Pi 251 0200/2K version)

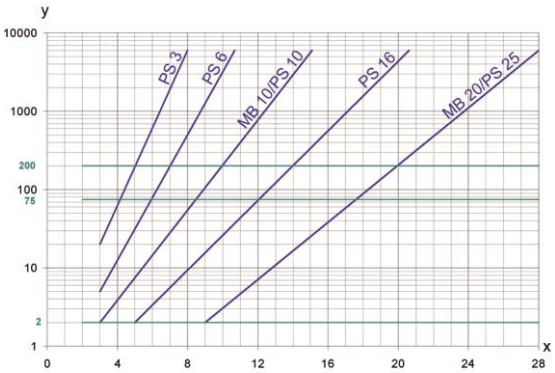
190 mm²/s
33 mm²/s





y = differential pressure Δp [bar]
x = flow rate V [l/min]
EP = e-protect version

3. Separation grade characteristics



y = beta-value
x = particle size [µm]

determined by multipass tests (ISO 16889)
calibration according to ISO 11171 (NIST)

4. Filter performance data

tested according to ISO 16889 (multipass test)

PS elements with max. Δp 20 bar			MB elements with max. Δp 20 bar		
PS	3 $ß_{5(C)}$	≥ 200	MB	10 $ß_{10(C)}$	≥ 200
PS	6 $ß_{7(C)}$	≥ 200	MB	20 $ß_{20(C)}$	≥ 200
PS	10 $ß_{10(C)}$	≥ 200			
PS	16 $ß_{15(C)}$	≥ 200			
PS	25 $ß_{20(C)}$	≥ 200			

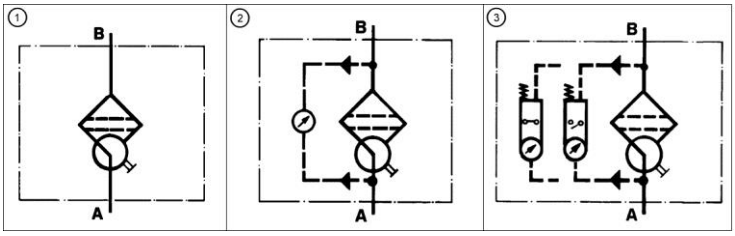
values guaranteed up to
10 bar differential pressure

5. Quality assurance

FGC filters and filter elements are produced according to the following international standards:

Norm	Designation
DIN ISO 2941	Hydraulic fluid power filter elements; verification of collapse/burst resistance
DIN ISO 2942	Hydraulic fluid power filter elements; verification of fabrication integrity
DIN ISO 2943	Hydraulic fluid power filter elements; verification of material compatibility with fluids
DIN ISO 3723	Hydraulic fluid power filter elements; method for end load test
DIN ISO 3724	Hydraulic fluid power filter elements; verification of flow fatigue characteristics
ISO 3968	Hydraulic fluid power-filters-evaluation of pressure drop versus flow characteristics
ISO 10771.1	Fatigue pressure testing of metal containing envelopes in hydraulic fluid applications
ISO 16889	Hydraulic fluid power filters-multipass method for evaluation filtration performance of a filter element

6. Symbols



7. Type number key and order numbers

7.1 Type number key housings

Type									
251	Duplex filter								
	Nominal size								
	0200	NG 2000							
		Connection							
		2	DIN flange						
		3	ANSI flange						
			Nominal widht						
			H	DN 80/3*					
			I	DN 100/4*					
			J	DN 125/5*					
			K	DN 150/6*					
				Nominal pressure					
				1	10 bar/140 psi				
				2	16 bar/230 psi				
					Switch				
					C	Double disc valve			
						Seal material			
						N	NBR		
						F	FPM		
							Housing code		
							060	no options ①	
							118	with visual indicator ②	
							119	with visual /electrical indicator ③	
								Special equipment	
								3.1	Inspection certificate 3.1 acc. to DIN EN 10204
								A	Cover lifting tool
								M	Magnet
Pi 251	**0200/**	**2**	**K/**	**2**	**C/**	**N**	**-119**	**/3.1**	**Example for ordering**

* other types on request

Example for ordering filter:

1. Filter housing	2. 2x Filter elements
V = 2000 l/min, connection DIN DN 150, nominal pressure 16 bar, double disc valve switch, seal NBR and visual/electrical maintenance indicator, with inspection certificate 3.1 Type: Pi 251 0200/2K/2C/N-119/3.1	PS 10 Type: Pi 23200 AN PS 10 Order number: 70561158

7.2 Housing design

Nominal size NG [l/min]	Type	Number of elemente each filter side
2000	see type number key	1

7.3 Filter elements (a wider range of element types is availble on request)					
Nominal size NG [l/min]	**Order number**	**Type**	**Filter material**	**max. Δp [bar]**	**Filter surface [cm²]**
2000	70561113	Pi 21200 AN PS 3	PS 3	**20**	40140
	70561152	Pi 22200 AN PS 6	PS 6		40140
	70561158	Pi 23200 AN PS 10	PS 10		40140
	70561161	Pi 24200 AN PS 16	PS 16		40140
	70561163	Pi 25200 AN PS 25	PS 25		40140
2000	72413295	Pi 41200 AN MB 10	MB 10	**20**	43708
	72351312	Pi 44200 AN MB 20	MB 20		43708
	70597037	Pi 44200 AN MB 20 EP*	MB 20 EP		43708

* e-protect version

8. Technical specifications

Design:	Duplex filter
Nominal pressure:	10 bar or 16 bar
Test pressure:	14.4 or 23.4 bar
Temperature range:	-10 °C up to +100 °C
	(other temperature ranges on request)
Filter housing material:	welded steel
Double disc valve material:	EN-GJS-400
Sealing material:	NBR/C4400
Maintenance indicator setting:	Δ p 1.25 bar +/-10 %
Electrical data of maintenance indicator:	
Maximum voltage:	250 V AC/200 V DC
Maximum current:	1 A
Contact load:	70 W
Type of protection:	IP 65 in inserted and secured status
Contact:	normally open/closed
Cable sleave:	M20x1.5

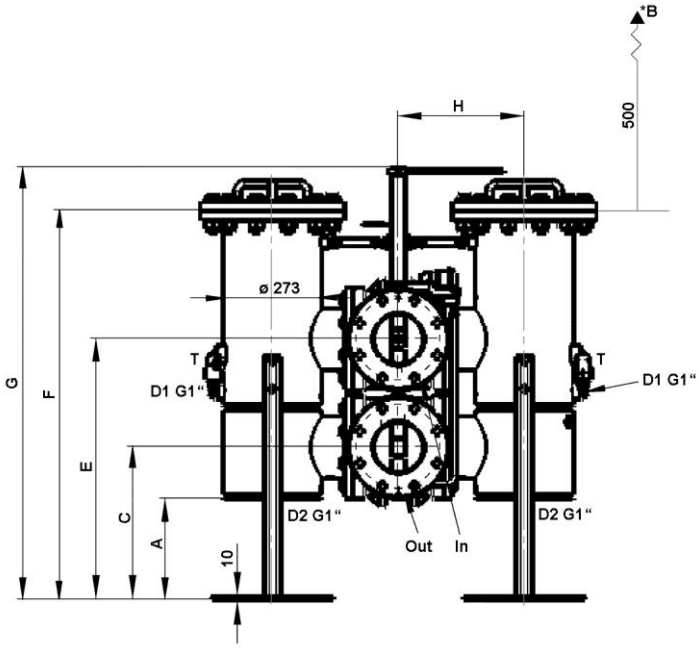
The switching function can be changed by turning the electric upper part by 180° (normally closed contact or normally open contact). The state on delivery is a normally closed contact. By inductivity in the direct current circuit the use of suitable protection circuit should be considered. Further maintenance indicator details and designs are available in the maintenance indicator data sheet.

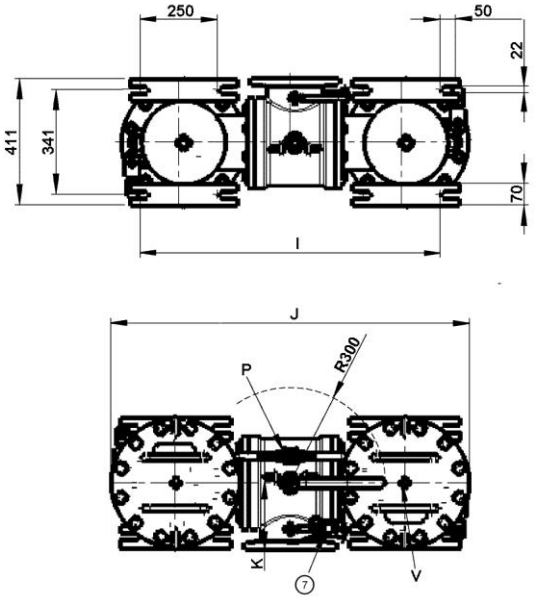
We draw attention to the fact that all values indicated are average values which do not always occur in specific cases of application. Our products are continually being further developed. Values, dimensions and weights can change as a result of this. Our specialized department will be pleased to offer you advice.

We recommend you to contact us concerning applications of our filters in areas governed by the EU Directive 94/9 EC (ATEX 95). The standard version can be used for liquids based on mineral oil (corresponding to the fluids in Group 2 of Directive 97/23 EC Article 9). If you consider to use other fluids please contact us for additional support.

Subject to technical alteration without prior notice.

9. Dimensions





In = Inlet
Out = Outlet
D1 Drain clean side G1
D2 Drain outlet dirt side G1
P Pressure balance valve
T Type plate
V Venting G½
⑦ Maintenance indicator
*B Clearance

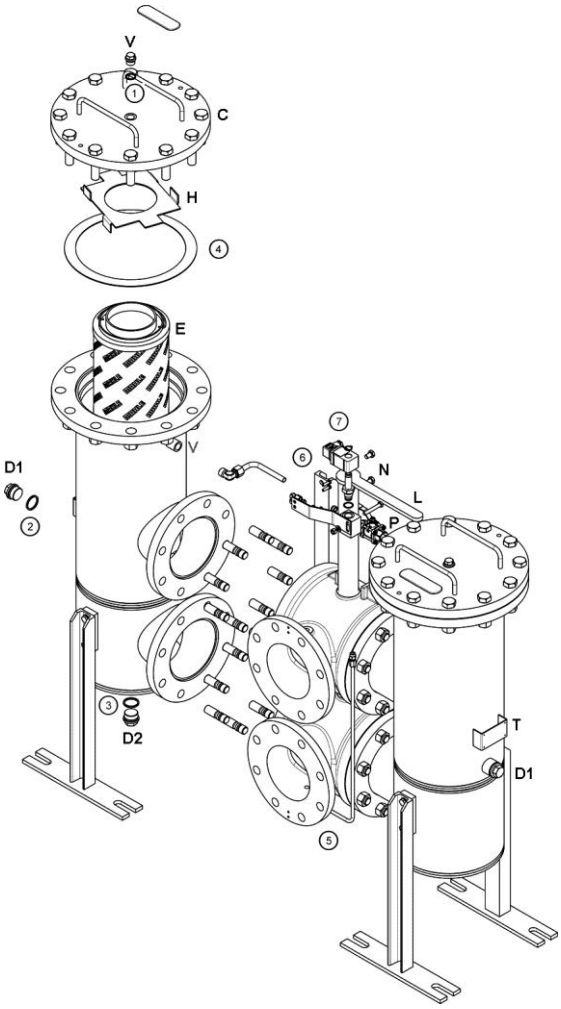
All dimensions in mm.

Type	Connection	A	C	E	F	G	H	I	J	K
Pi2510200/2H/2	DN 80	299	408	638	1046	1211	324	898	1053	170
Pi2510200/2I/2	DN 100	286	408	658	1059	1199	332	914	1069	180
Pi2510200/2J/2	DN 125	303	438	708	1102	1234	362	974	1129	200
Pi2510200/2K/2	DN 150	289	438	748	1116	1240	362	974	1129	210

10. Installation, operating and maintenance instructions

see instruction manual

11. Spare parts and accessories lists



Order numbers for spare parts and accessories		
Position	**Type**	**Order number**
① - ④	Seal kit for element change (per chamber)	
	D-Satz Pi 251 0200 E NBR	70602830
	D-Satz Pi 251 0200 E FPM	70604080
① - ⑤	Seal kit for housing NG 2000	
	DN 80	
	NBR	70604082
	FPM	70604083
	DN 100	
	NBR	70604100
	FPM	70604101
	DN 125	
	NBR	70601686
	FPM	70604078
	DN 150	
	NBR	70601687
	FPM	70604079
⑥	Seal kit for maintenance indicator	
	NBR	77760309
	FPM	77760317
⑦	Maintenance indicator	
	Visual PiS 3098/1.25	77809080
	Electrical PiS 3097/1.25	70328693
	Electrical upper section only	77536550

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