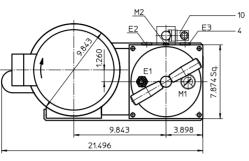
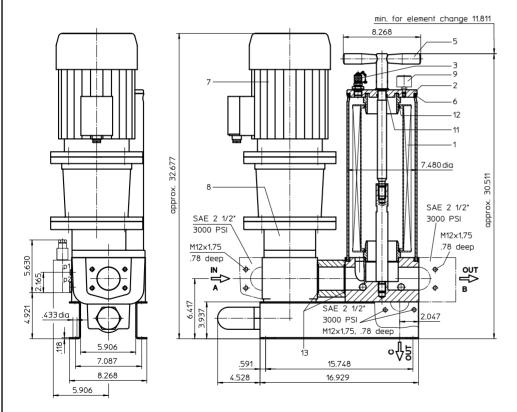
# - preference version -

#### Assignment of connections and functions:

- E1: venting mini-measuring connection, MA.1.St see sheet-no.1650
- E2: drainage of filter, dirt side
- E3: drainage of filter, clean side
- M1: measure connection in
- the housing cover, dirt side
- M2: measure connection at filter housing  $p_1 = \text{dirt side}$  $p_2 = \text{clean side}$





#### Notice:

Only operate all motors listed on this data sheet in combination with the pump unit specified on the type plate under item 8.

# FILTER UNIT, stationary Series US 320

												heet 1/2
I. Type ii	ndex	•										
1.1. Filte			orina	avamala								
		•	-	. ,			-		_			
US. 320.	. 6VC	Э. <u>1</u> 0.	В.	Р	P06. D	08.	3. (	D. Al	E.			
1 2	3	4	5	6 7	8	9	10 <sup>·</sup>	11 12	2			
1 series:												
		nit, statio	nary									
2 nominal												
3 filter-mat					n <sub>(c)</sub> , 1 VG = 4		alooo fibr					
					p-filter eleme		yiass iibe	1				
4 resistance												
	∆p 14											
5 filter eler B =		sign: ides oper										
6 sealing n			1									
P =	Nitrile	(NBR),		Viton (FPM	, by agreeme	ent						
7 filter eler	-			talata i	-1 1065							
- = 8   pump un	standa	ard,	VA = 5	stainless ste	ei, IS06	= see	e sheet-n	0. 31601				
		unit 06, N	IG 320.2	200 (standa	rd-pump-unit /	settir	ng range	58-116 F	PSI)			
9 motor: (												
motor	electri	cal conne	ection	volume flow					on/off swit	ch cal	ble	docno.
D08 <sup>1)</sup>	400/69		)Hz	75 GPM	46-460 St		58 F		-		-	42744-4
D08 <sup>1)</sup> D24	460/79		)Hz )Hz	90 GPM 75 GPM	46-460 St 46-460 St		58 F 58 F		-		-	42744-4 48816-4
D24	460/03		)Hz	90 GPM	46-460 St		58 F				-	48816-4
											-	
	ard motor		/12	00 0.1	40-400 30	55	501	-01	-		-	40010-4
		ŗ	112	00 01 11	40-400 30		501	-31	-		-	40010-4
1) standa	on varia	nt:	ection A	-	onnection B			ction C			-	40010-4
<sup>1)</sup> standa 10 connecti varia	on varia	nt: conne type	ection A	a co e typ	onnection B						-	40010-4
<sup>1)</sup> standa 10 connecti varia 3	on varia ant	nt: conne type FS	ection A siz 9	k co se typ FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4	on varia ant	nt: conne type FS FS	ection A siz 9 9	A co e typ FS FS	e size		conne	ction C			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type:	on varia ant FS =	nt: conne type FS FS flange SA	ection A siz 9 9	A co e typ FS FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size:	FS = 9 = - =	nt: conne type FS FS flange SA 2 ½" no conne	ection A siz 9 9 AE 3000	A co e typ FS FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size:	FS = 9 = indicato	nt: conne type FS FS flange SA 2 ½" no conne or at M1:	ection A siz 9 9 AE 3000	A co e typ FS FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging	FS = 9 = indicato	nt: conne type FS FS flange SA 2 ½" no conne or at M1: it	ection A siz 9 9 AE 3000	A co e typ FS FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging 0 =	FS = 9 = indicato visual,	nt: type FS FS flange SA 2 ½" no conne or at M1: it 36 PSI	ection A siz 9 9 AE 3000	A co e typ FS FS	e size		conne type	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = 12 clogging - =	FS = indicato visual, indicato withou withou	nt: conne type FS FS flange S/ 2 ½ no conne or at M1: it , 36 PSI or at M2: it	ection A siz 9 9 9 AE 3000 ction	A co e typ FS PSI	nnection B e size S 9 S 9		conne type - FS	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 0 = 12 clogging - = AOR =	FS = indicato visual, indicato withou output indicato withou AOR.2	nt: conne type FS flange S/ 2 ½° no conne or at M1: it , 36 PSI or at M2: it 2,5, visu	ection A siz 9 9 AE 3000 ction	e typ FS PSI	Production B e size S 9 S 9 PSI, see shee	et-no.	conne type - FS 1606,	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size: 11 clogging - = 12 clogging - = AOC =	on varia ant FS = 9 = - = indicato vithou visual, indicato = withou = AOR.2 = AOR.2	nt: conne type FS FS flange S/ 2 ½ <sup>e</sup> no conne or at M1: it , 36 PSI or at M2: it 2,5, visu 2,5, visu	ection A siz 9 9 xE 3000 ction ction	and p <sub>2</sub> , 36 and p <sub>2</sub> , 36	nnection B e size S 9 S 9	et-no.	conne type - FS 1606, 1606,	ction C size			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 0 = 12 clogging - = 0 = AOR = AOR = AOC = AC = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 =	FS = 9 = - = indicato	nt: type FS FS flange S/ 2 ½" no conne or at M1: it , 36 PSI or at M2: it , 36 PSI or at M2: it , 36 PSI or at M2: it , 36 PSI or, visu 2,5, visu 2,5, visu	AE 3000 ction ral, at p1 al, at p1 al, at p1 al, at p1	A         Cc           e         typ           FS         FS           PSI         stand p2, 36           and p2, 36         tp1 and p2, 36           tp1 and p2, 36         tp1 and p2, 36	PSI, see sheet PSI, see sheet SI, see sheet SI, see sheet SI, see sheet	et-no. et-no. heet-n no. 16	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	+0010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = AOC = AOC = AC = OC =	FS = 9 = indicato indicato visual, indicato AOR.2 AOC.2 ACC.2 ACC.2 ACC.2 COP.2,5	nt: type FS FS flange SA 2 ½" no conne or at M1: it , 36 PSI or at M2: it 2,5, visu 2,5, visu 35, visu 5, visu 5, visu	ection A siz 9 9 2 8 3000 ction ction al, at p <sub>1</sub> ctrical a 1-electric	A         CC           e         typ           FS         FS           PSI         FS           and p2, 36         and p2, 36           t p1 and p2, 36 P         p2 and p2, 36 P           and p2, 36 P         and p2, 36 P	Pronection B         size           e         size           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9           S         9	et-no. 1 te-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = AOR = AOR = AOR = AOR = OP = OE = E1 =	on varia ant FS = 9 = indicato withou visual, indicato e withou AOR.2 AOC.2 ACS.2 ACS.2 E ACS.2 E ACS.2 E ACS.2 E C.2,5 E C.2,	nt: conne type FS FS flange S/ 2 ½" no conne or at M1: , 36 PSI or at M2: , 36 PSI or at M2: , 36 PSI or at M2: , 36 PSI or at M2: , 5, visu 5, visu 5, visu 5, visu	AE 3000 ction ral, at p <sub>1</sub> al, at p <sub>1</sub> ctrical a l, at p <sub>1</sub> at l-electric l at p <sub>1</sub> , 3	A         Cc           e         typ           FS         FS           p PSI         and pz, 36           and pz, 36 P         cal, at p1 ani           a f PSI, af PSI, af PSI, and pz,	PSI, see sheet PSI, see sheet SI, see sheet SI, see sheet SI, see sheet	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size: 11 clogging - = 12 clogging - = AOR = AOR = AOR = AOR = OP = OE = E1 = E5 =	on varia ant FS = 9 = - = indicato = withou = visual, indicato = AOR.2; = AOC.2 = AOC.2 = AOC.2; = OP.2; = OP.2; = E1.2,5 = E5.2,5	nt: conne type FS FS flange S/ 2 ½ <sup>a</sup> no conne or at M1: it ,36 PSI or at M2: it ,36 PSI or at M2: it ,5, visua 2,5, visua 6 - electrica 6 electrica	ection A siz 9 9 9 AE 3000 ction ction al, at p <sub>1</sub> ctrical a l-electric l at p <sub>1</sub> , 3 l at p <sub>1</sub>	A         Cc           ye         typ           FS         FS           PSI         FS           and p2, 36         tp1and p2, 36           tp1and p2, 36         FS           asal, at p1and 36         PSI, see           36 PSI, see         SPSI, see	Protection B         size           g         9           g	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size: 11 clogging 0 = 12 clogging 0 = 12 clogging 0 = AOR = AOR = 0P = 0P = 0P = E1 = E5 = 1.2. Filte	FS = 9 = indicate withou visual, indicate withou AOR.2 AOC.2 ACC.2 E AOC.2 E AOC.2 E E1.2,5 E E5.2,5	nt: <u>conne</u> <u>type</u> FS FS flange S/ 2 ½ <sup>a</sup> no conne or at M1: it , 36 PSI or at M2: it , 36 PSI or at M2: it 2,5, visu 2,5, visu 5, visu 6 electrica 6 electrica	Action A siz 9 9 Action ction ction ction al, at pa ctrical a l-electrical a pa l-electrical a pa l-al, at pa ctrical a l-al, at pa ctrical a l-al pa ctrica	A         CC           e         typ           FS         FS           PSI         FS           and p2, 36         and p2, 36           t p1 and p2, 36 P         p2, 36 P           and p2, 36 P         p36 PSI, see           36 PSI, see         sein p2, see	Protection B         size           g         9           g	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size: 11 clogging 0 = 12 clogging 0 = 12 clogging 0 = AOR = AOR = 0P = 0P = 0P = E1 = E5 = 1.2. Filte	FS = 9 = indicate withou visual, indicate withou AOR.2 AOC.2 ACC.2 E AOC.2 E AOC.2 E E1.2,5 E E5.2,5	nt: <u>conne</u> <u>type</u> FS FS flange S/ 2 ½ <sup>a</sup> no conne or at M1: it , 36 PSI or at M2: it , 36 PSI or at M2: it 2,5, visu 2,5, visu 5, visu 6 electrica 6 electrica	Action A siz 9 9 Action ction ction ction al, at pa ctrical a l-electrical a pa l-electrical a pa l-al, at pa ctrical a l-al, at pa ctrical a l-al pa ctrica	A         CC           e         typ           FS         FS           PSI         FS           and p2, 36         and p2, 36           t p1 and p2, 36 P         p2, 36 P           and p2, 36 P         p36 PSI, see           36 PSI, see         sein p2, see	Protection B         size           g         9           g	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	+0010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = AOR = AOR = AOR = AOR = OP = OE = E1 =	FS = 9 = indicate withou visual, indicate withou AOR.2 AOC.2 ACC.2 E AOC.2 E AOC.2 E E1.2,5 E E5.2,5	nt: <u>conne</u> <u>type</u> FS FS flange S/ 2 ½ <sup>a</sup> no conne or at M1: it , 36 PSI or at M2: it , 36 PSI or at M2: it 2,5, visu 2,5, visu 5, visu 6 electrica 6 electrica	Action A siz 9 9 Action ction ction ction al, at pa ctrical a l-electrical a pa l-electrical a pa l-al, at pa ctrical a l-al, at pa ctrical a l-al pa ctrica	A         CC           e         typ           FS         FS           PSI         FS           and p2, 36         and p2, 36           t p1 and p2, 36 P         p2, 36 P           and p2, 36 P         p36 PSI, see           36 PSI, see         sein p2, see	Protection B         size           g         9           g	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	+0010-4
<sup>1)</sup> standa 10 connecti 3 4 type: size: 11 clogging - = 12 clogging - = AOC = AOC = AOC = AOC = E5 = 1.2. Filte 01NR. 1	on varia ant FS = 9 = indicato withou visual, indicato visual, indicato e withou a AOR.2 AOR.2 AOC.2 E AOC.2 E E1.2,5 E E5.2,5 F ele	nt: type FS FS flange SA 2 ½ <sup>a</sup> no conne or at M1: it , 36 PSI or at M2: it , 2,5, visu 2,5, visu 2,5, visu 5, visu 6 electrica ie electrica 6 VG.	Image: constraint of the second sec	A         CC           e         typ           FS         FS           PSI         FS           and p2, 36         and p2, 36 P           and p2, 36 P         sal, at p1 and p2, 36 P           and p2, 36 P         sal, sal, sal, sal, sal, sal, sal, sal,	PSI, see shee PSI, see shee PSI, see shee SI, see sheet- p2, 36 PSI, sheet-no. 161 sheet-no. 161 sheet-no. 161	et-no. 1 heet-no. 16 see sh	conne type - FS 1606, 1606, 1606, 1606, 1609 528	ction C size - 9			-	+0010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = AOR = 00 = AOR = AOR = 0P = 0P = 0P = E1 = E5 = 1.2. Filte 01NR. 1 1 series: 01NR. =	on varia ant FS = 9 = indicate withou visual, indicate withou AOR.2 AC2 AE30. E AC2.2 AE30. E C2.2, E E1.2,5 E E5.2,5 E E1.2,5 E E5.2,5 E E1.2,5 E E5.2,5 E E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5.2,5 E5	nt: conne type FS FS flange S/ 2 ½ no no or at M1: 1, 36 PSI or at M2: 2,5, visu 2,5, visu 3,5, visu 4,5, visu 4,5	action A         sizz         9         10         11         11         11         11         11         11         11         11 <th11< th=""> <th11< th=""></th11<></th11<>	A         cc           e         typ           F5         F5           PSI         F5           PSI         and p2, 36           and p2, 36 P         pand p2, 36 P           and p2, 36 P         sail, at pn and           36 PSI, see         s6 PSI, see           ering exa <b>B. P.</b> 5         6	PSI, see shee PSI, see shee PSI, see shee SI, see sheet- p2, 36 PSI, sheet-no. 161 sheet-no. 161 sheet-no. 161	at-no. 1 tt-no. 1 heet-n no. 16 see sf 6	conne type - FS 1606, 1606, 1606, 1606, 1606, 1609 528 neet-no.	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 12 clogging - = 12 clogging - = AOR = AOR = AOR = AOR = OP = OP = OP = OP = E5 = 1.2. Filte 01NR. 1/1 1 series: 01NR. = 2 nominal	on varia ant FS = 9 = = indicate withou visual, indicate withou ACR.2 AE30.0 OP.2,5 OP.2,5 OP.2,5 EF.2,5 EF.2,5 Frelet 0000. 2	nt: conne type FS FS flange S/ 2 ½" no conne or at M1: it , 36 PSI or at M2: it , 36 PSI or at M2: it 2,5, visu 2,5, visu 2,5, visu 5, visu 5, visu 6 electrica is electrica addressing 6 VG. 3 ard-return: 00	Image: state	A         cc           e         typ           F5         F5           PSI         F5           PSI         and p2, 36           and p2, 36 P         pand p2, 36 P           and p2, 36 P         sail, at pn and           36 PSI, see         s6 PSI, see           ering exa <b>B. P.</b> 5         6	PSI, see sheet PSI, see sheet PSI, see sheet SI, see sheet p2, 36 PSI, sheet-no. 161 sheet-no. 161 sheet-no. 161 ample)	at-no. 1 tt-no. 1 heet-n no. 16 see sf 6	conne type - FS 1606, 1606, 1606, 1606, 1606, 1609 528 neet-no.	ction C size - 9			-	40010-4
<sup>1)</sup> standa 10 connecti varia 3 4 type: size: 11 clogging - = 2 clogging - = AOR = AOR = AOR = AOR = AOR = AOR = 0 = 12 clogging - = AOR = AOR = AOR = 0 = 0 = 0 = 0 = 11 clogging - = AOR = AOR = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0	on varia ant FS = 9 = = indicate withou visual, indicate withou ACR.2 AE30.0 OP.2,5 OP.2,5 OP.2,5 EF.2,5 EF.2,5 Frelet 0000. 2	nt: conne type FS FS flange S/ 2 ½ no no rat M1: 3 6 PSI or at M2: 2,5, visu 2,5, visu 2,5, visu 2,5, visu 2,5, visu 2,5, visu 6 electrica 6 electrica a electrica a electrica a electrica a electrica a electrica a electrica a electrica a electrica ment: 6 VG. 3	Image: state	A         cc           e         typ           F5         F5           PSI         F5           PSI         and p2, 36           and p2, 36 P         pand p2, 36 P           and p2, 36 P         sail, at pn and           36 PSI, see         s6 PSI, see           ering exa <b>B. P.</b> 5         6	PSI, see sheet PSI, see sheet PSI, see sheet SI, see sheet p2, 36 PSI, sheet-no. 161 sheet-no. 161 sheet-no. 161 ample)	at-no. 1 tt-no. 1 heet-n no. 16 see sf 6	conne type - FS 1606, 1606, 1606, 1606, 1606, 1609 528 neet-no.	ction C size - 9			_	40010-4

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FAT•N

Sheet No.

4012.1 G

EDV 03/21\_US

#### 2. Spare parts:

item	designation	qty.	dimension	article-no.
1	filter element	1	01NR. 1000	
2	housing cover	1	22496-3	313837
3	mini-measuring connection	1	MA.1.St	305453
4	screw plug	2	1/2 BSPP	304678
5	straining screw	1	31067-3	316893
6	O-ring	1	140 x 6	315392 (NBR)
7	electric motor	1	according to type index	
8	pump unit P06	1	NG 320.200	316838
9	clogging indicator (series)	1	visual 1.57 dia	315452
10	clogging indicator	1	according to type index	
11	O-ring	1	22 x 3	304387 (NBR)
12	O-ring	2	90 x 4	306941 (NBR)
13	O-ring	2	69.45 x 3.53	305868 (NBR)

#### 3. Description:

The stationary filter unit is intended for oil maintenance on hydraulic systems.

The area of application comprises: - secondary flow filtration in addition to the existing operating filter

- secondary flow filtration without the action of the operating filter

- filtration when filling the oil reservoir.

The filter unit must not be used to pump contaminated hydraulic fluids and is therefore designed without a switchover fitting to bypass the filter. The compact structural design on a base plate without pipe satisfies the prerequisites for small dimensions and high reliability.

The device is equipped with a gear pump driven by an E-motor. The flow conveyed by the geared pump is fed over a filter element to DIN 24550, T4, nominal size 1000.

Depending on the customer's wishes, the filter fineness is either 4, 5, 7 or 10 µm<sub>(c)</sub>. The contamination level of the filter element can be read off from a pressure display in the cover of the filter.

At a pressure >36 PSI (red area of the scale field), the filter element is contaminated and it must be replaced with a new filter element.

The filter element can be changed without tools. After removing the straining screw and taking off the housing cover, the filter element is accessible and it can be exchanged. The filter elements are supplied complete with seals. Since it is not possible to clean the elements, the user must always keep an adequate supply of spare elements in stock.

To protect against overpressure, the filter unit is fitted with a safety valve. The initial response pressure difference valve is set

according to pressure stated in the table on the type plate under item 9. If a different pressure setting is requested, please state the initial response uret to the set pressure range of the pump unit in the plain text when ordering.

Stationary filter units with motors without combined protective motor switch and ON/OFF switch and without any cable with plug (see switch "-", cable "-" under item 9 of the type plate) can be operated without supervision if the electrical connection is fitted with an overload protection corresponding to the current consumption of the selected E-motor and if the switch-off function of the E-motor of the electrical clogging indicator is disengaged at 36 PSI.

The line, venting and draining connections are identified according to their function. Drainage is necessary when cleaning the filter unit in connection with the change of filter element, and when setting the medium.

### 4. Technical data:

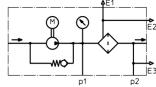
filter-fineness:	4, 5, 7 or 10 µm <sub>(c)</sub>
weight:	approx. 243 lbs.
operating medium:	hydraulic oil based on r
	other media on request

approx. 243 lbs. hydraulic oil based on mineral oil from 46 SUS, other media on request

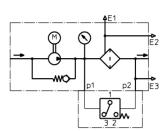
Classified under the Pressure Vessel Directive 2014/68/EU for mineral oil (fluid group 2), Article 4, Para. 3. Classified under ATEX Directive 2014/34/EU according to specific application (see questionnaire sheet-no. 34279-4).

# 5. Symbols:

Filter unit without clogging indicator



Filter unit with electrical clogging indicator AE30



Filter unit with visual clogging indicator AOR, AOC, OP



Filter unit with visual-electrical clogging indicator OE1



Filter unit with visual-electrical clogging indicator OE2



Filter unit with electrical clogging indicator contact maker E1



Filter unit with electrical clogging indicator contact breaker E5

p1	
<u> </u>	

# 6. Test methods:

Filter elements are tested according to the following ISO standards:

ISO 2941 Verification of collapse/burst resistance ISO 2942 Verification of fabrication integrity

- Verification of fabrication integrity
   Verification of material compatibility with fluids
- ISO 2943 Verification of material compatibili ISO 3723 Method for end load test

ISO 3723 Weiniou for end load test ISO 3724 Verification of flow fatigue characteristics

ISO 3968 Evaluation of pressure drop versus flow characteristics

ISO 16889 Multi-pass method for evaluating filtration performance