



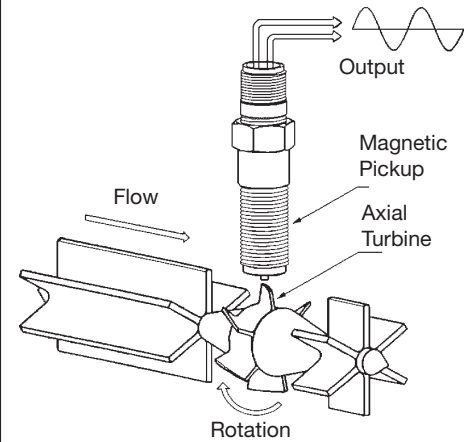
## Hydraulic Tester PPC-SFM Flow Turbines

### Flow-Turbines PPC-04/12-SFM

The PPC-04/12-SFM flow turbine is installed in-line, this allows fluid flow to directly set the turbine into rotation. The resulting frequency is transferred by a digital electronic device (the signal converter) thereby compensating for the influence of interfering flow effects. The flow turbine PPC-04/12-SFM is available in five different measuring ranges.

The flow turbines PPC-04/12-SFM have an integrated test point for connection of a pressure transducer (see page D19).

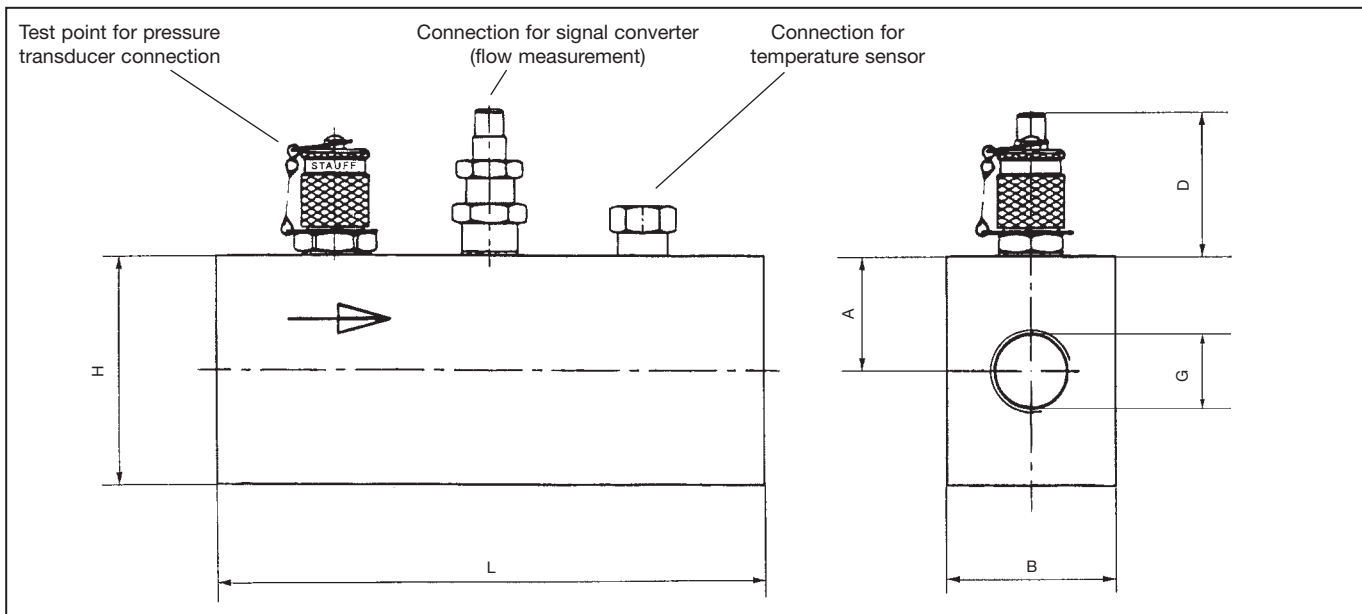
All flow turbines have a connection port to accommodate the temperature sensor PPC-04/12-TS (see page D20).



DIAGNOSTICS

Type sensor PPC-04/12-...		SFM-015	SFM-060	SFM-150	SFM-300	SFM-600
Technical Data	Measuring Range l/min (GPM)	1-15 (0.26-3.9)	7,5-60 (1.95-15.6)	7,5-150 (1.95-39.6)	15-300 (3.9-78)	25-600 (7.8-156)
	Pressure Range bar (PSI)	400 (5800)	400 (5800)	400 (5800)	400 (5800)	350 (5000)
	Characteristic Curve Deviation (% FS*)	1	1	1	1	1
	Max. Pressure Drop bar (PSI)	1.85 (26.8)	1.2 (17.4)	1.75 (24.7)	2.0 (29)	2.0 (29)
	Port Connection (BSP)	G 1/4"	G 3/4"	G 3/4"	G 1"	G 1 1/4"
	Port Connection (SAE)	3/4"-16	1 1/16"-12	1 1/16"-12	1 5/16"-12	1 5/8"-12
	Weight kg (lbs)	0,65 (1.4)	0,75 (1.6)	0,75 (1.6)	1,2 (2.6)	1,8 (4)
Dimensions	A mm inch	22,5 (0.88)	26,5 (1.04)	26,5 (1.04)	31 (1.20)	33 (1.30)
	B mm inch	32 (1.24)	38 (1.50)	38 (1.50)	51 (1.97)	64 (2.46)
	D mm inch	58,5 (2.3)	57,5 (2.26)	57,5 (2.26)	57,5 (2.26)	57,5 (2.26)
	L mm inch	120 (4.72)	129 (5.08)	129 (5.08)	149 (5.86)	173 (6.81)
	H mm inch	38 (1.47)	46 (1.81)	46 (1.81)	56 (2.20)	63 (2.5)

All dimensions in mm (inch)





**Signal Converter for Flow Turbine  
PPC-04/12-SFM**

The signal converter is supplied with the flow turbine and is essential for flow measurement.

**NOTE : Flow turbine and signal converter are matched units and must not be replaced with identical parts.**

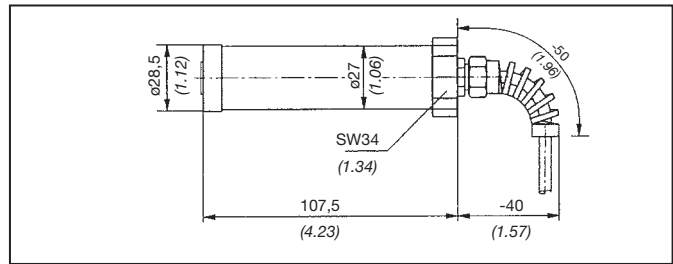
**Technical Data Flow-Turbine PPC-04/12-SFM**

- Media temperature -20...150°C (-4...302°F)
- Viscosity 15...100 cSt
- Calibration viscosity 30 mm<sup>2</sup>/s (=30 cSt)
  
- Response time approx. 400 ms
- Accuracy ± 1.0 % FS\* at 30 cSt
- Reproducibility ± 0.2 % FS\*
  
- Material of housing Aluminum
- Surface treatment black anodized
- Seals NBR (Buna-N, standard)  
others on request
  
- Test point SMK 20 (M16 x 2)
- Additional connection M10x1 (standard screw-plug)

\* FS = Full Scale

To connect the signal converter to the Hydraulic Tester PPC-04 /2 and PPC-06/08/12 you must use a connection cable PPC-04/12-CAB3 which is not supplied with the flow turbine.

**Dimensions for signal converter for  
PPC-04/12-SFM**



All dimensions in mm (inch)

**Technical Data Signal Converter**

- Output signal U = 0...3 VDC
- Accuracy ≤ 0.3 % FS\*
  
- Working temperature 0...+60°C (32...140°F)
- Storage temperature -20...+80°C (-4...176°F)
  
- Electrical connection  
Turbine end: cable 0.4 m (1,31 ft) connected to signal converter with 5pin plug  
Connection to unit: cable PPC-04/12-CAB3 3m (10 ft.)
  
- Material of housing stainless steel 1.4301
  
- Weight ca. 200 g (0.44 lbs.)

**Flow meter PPC-04/12-SVC (positive displacement flow meter)**

The STAUFF flow meter PPC-04/12-SVC measures flow in hydraulic systems. With its high precise gears the PPC-SVC achieves accurate results. With various seal material options the STAUFF volume counter is compatible with a wide range of fluids and various viscosity ranges such as aggressive products like brake fluids, skydrol, biological oils or isocyanates.

**Types PPC-04/12-SVC**

Type PPC-04/12-SVC-		015	060	150	300
<b>Measuring Range</b>	l/min	0,2...15	0,4...60	0,6...150	1,0...300
	gal/min	<b>0.05...3.9</b>	<b>0.1...15.9</b>	<b>0.16...39.6</b>	<b>0,26...79.3</b>
<b>Max. Working Pressure</b>	bar	400	400	315	315
	PSI	<b>5800</b>	<b>5800</b>	<b>4570</b>	<b>4570</b>
<b>Overload pressure</b>	bar	480	480	350	350
	PSI	<b>6960</b>	<b>6960</b>	<b>5075</b>	<b>5075</b>
<b>Connection (BSPP)</b>		G 3/8	G 1/2	G 1	G 1
<b>Weight</b>	g	2000	5200	9000	13000
	lbs.	<b>4.41</b>	<b>11.46</b>	<b>19.84</b>	<b>28.66</b>
<b>Sound level db</b>	A	<60	<70	<70	<72
<b>Resolution</b>	impulse/liter	4082	965	333,33	191
<b>Frequency</b>	Hz [at FS]	1020	965	833,33	955

\*FS: Full-Scale



**Technical data PPC-04/12-SVC**

- Flows up to 300 l/min (79 US gal/min)
- 4 measuring ranges
- Working pressure up to 400 bar (5800 PSI)
- Accuracy ± 0.5% FS\*
- Large viscosity range
- Low noise
- With connecting plate
- With signal converter (without cable)
- Compatible with all STAUFF Hydraulic Tester series PPC
- Automatic scaling / sensor identification
- Output signal U = 0...3 VDC

**Technical Data**

- Accuracy  $\pm 0.5\%$  FS\*  
 $\pm 0.3\%$  of measured value  
(frequency service)
- Repeatability 0,01 % FS\*
- Response time 400 ms (in conjunction with signal converter), for shorter response time see advice at the bottom of the page
- Ambient temperature -30... 80°C (-22...176°F)
- Media temperature -30...120°C (-22...248°F)
- Viscosity range see diagrams next page
- Material housing GGG40
- Seal material FPM (Viton)  
EPDM (on request)
- Style Gear motor / Bearing material 1.7139, free of non-ferrous heavy metal and silicone

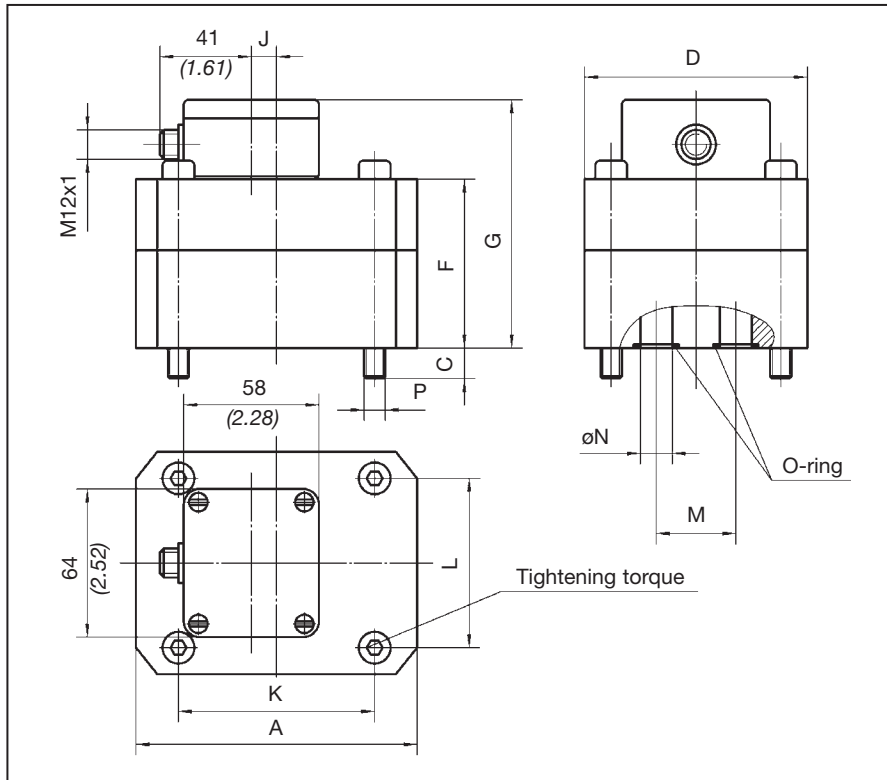
**Electrical Data**

- Working temperature 10...60°C (50...140°F)
- Ambient temperature 0 ...70°C (32...158°F)
- Storage temperature -20...80°C (-4...176°F)
- Output  $U = 0...3$  VDC
- Resistance ( $\Omega$ )  $\leq 500$
- Supply voltage +18 ... +30 VDC
- Current drain 28 mA
- Thermal drift  $\pm 0.05\%$  (FS / °C)
- Connection (IP 67) M12x1
- EMC Protection (EMV): EN 50081 Part 1  
EN 50082 Part 2
- Signal hissing  $< 5$  mV

\* FS = Full Scale

**Dimensions (without connecting plate)**

All dimensions in mm (inch)



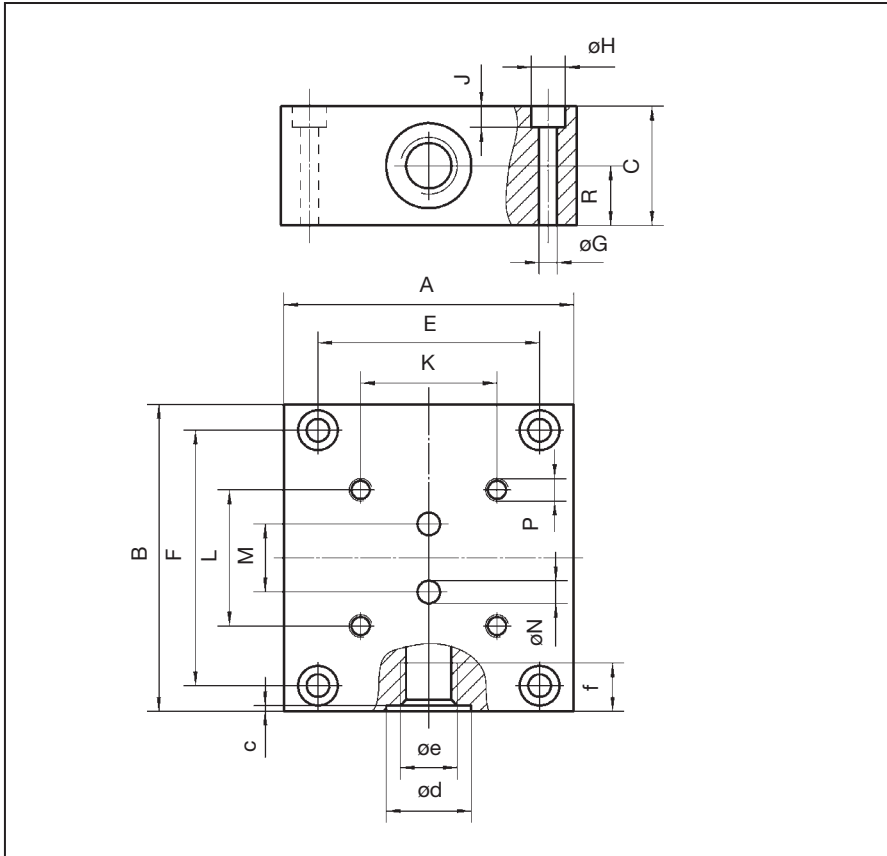
	Type PPC-04/12-SVC-			
	015	060	150	300
<b>A</b>	85 (3.35)	120 (4.72)	170 (6.69)	170 (6.69)
<b>C</b>	13 (0.51)	13 (0.51)	18 (0.71)	22 (0.87)
<b>D</b>	60 (2.36)	95 (3.74)	120 (4.72)	120 (4.72)
<b>F</b>	57 (2.24)	72 (2.83)	89 (3.50)	105 (4.13)
<b>G</b>	94 (3.70)	109 (4.29)	140 (5.51)	142 (5.59)
<b>J</b>	-	10,5 (0.41)	46,5 (1.83)	40 (1.57)
<b>K</b>	70 (2.76)	84 (3.31)	46 (1.81)	46 (1.81)
<b>L</b>	40 (1.57)	72 (2.83)	95 (3.74)	95 (3.74)
<b>M</b>	20 (0.79)	35 (1.38)	50 (1.97)	50 (1.97)
<b>N</b>	9 (0.35)	16 (0.63)	25 (0.98)	25 (0.98)
<b>P</b>	M6	M8	M12	M12
<b>Moment [Nm]</b>	14	35	120	120

All dimensions in mm (inch)

The flow meter PPC-04/12-SVC is always supplied with a connecting plate and a signal converter. To connect the signal converter to a Hydraulic Tester PPC the following cable is required (not supplied with the volume counter PPC-04/12-SVC): PPC-04/12-CAB3 for connection to PPC-04 /2, PPC-06, PPC-08 and PPC-12.

For the PPC-04/12-SVC a special cable with lower response time (6 ms) is available, **Cable PPC-04/12-SVC-FAST**. Connect this cable only to port 3 because the automatic sensor identification is not supported with this cable.

## Dimensions Connecting Plate

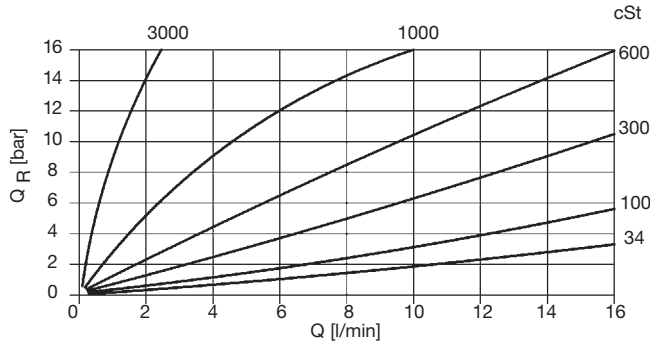


		Type PPC-04/12-SVC-			
		015	060	150	300
Dimensions	A	85 (3.35)	100 (3.94)	160 (6.30)	160 (6.30)
	B	90 (3.54)	120 (4.72)	165 (6.50)	165 (6.50)
	C	35 (1.38)	37 (1.46)	80 (3.15)	80 (3.15)
	E	65 (2.56)	80 (3.15)	140 (5.51)	140 (5.51)
	F	76 (2.99)	106 (4.17)	145 (5.71)	145 (5.71)
	G	7 (0.28)	7 (0.28)	9 (0.35)	9 (0.35)
	H	11 (0.43)	11 (0.43)	15 (0.59)	15 (0.59)
	J	7 (0.28)	7 (0.28)	9 (0.35)	9 (0.35)
	K	70 (2.76)	84 (3.31)	46 (1.81)	46 (1.81)
	L	40 (1.58)	72 (2.83)	95 (3.74)	95 (3.74)
	M	20 (0.79)	35 (1.38)	50 (1.97)	50 (1.97)
	N	6,5 (0.26)	12 (0.47)	25 (0.98)	25 (0.98)
	P	M6 x14	M8 x18	M12 x28	M12 x28
	R	17 (0.67)	17,5 (0.69)	28,5 (1.12)	28,5 (1.12)
	c	0,7 (0.03)	0,7 (0.03)	1 (0.04)	1 (0.04)
	d	25 (0.98)	29 (1.14)	42 (1.65)	42 (1.65)
e	G 3/8	G 1/2	G 1	G 1	
f	13 (0.51)	15 (0.59)	19 (0.75)	19 (0.75)	

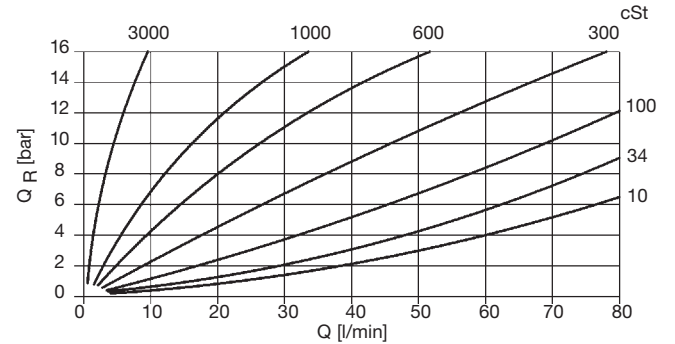
All dimensions in mm (inch)

## Pressure Drop Curves

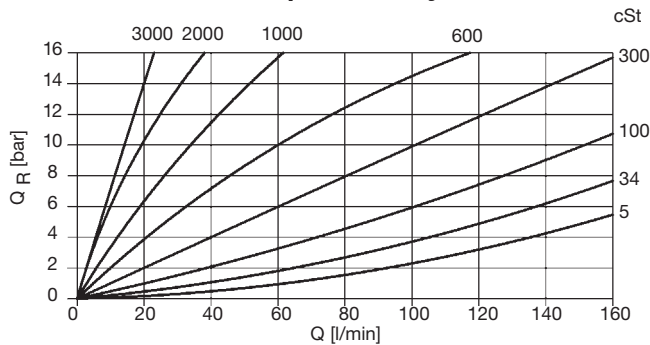
PPC-04/12-SVC-015  $\Delta p$  - viscosity



PPC-04/12-SVC-060  $\Delta p$  - viscosity



PPC-04/12-SVC-150  $\Delta p$  - viscosity



PPC-04/12-SVC-300  $\Delta p$  - viscosity

