

Screw type flow meters
SVC



KRACHT®

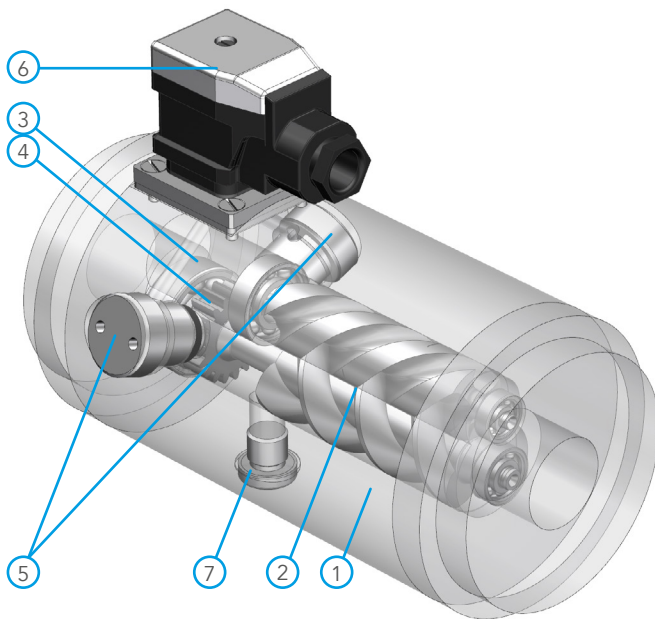
FLUID TECHNOLOGY AND SYSTEMS

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Description

I Construction



- 1 Housing
- 2 Measuring system (screw spindles)
- 3 Bearing (ball bearings)
- 4 Sensing wheel
- 5 Sensors
- 6 Plug
- 7 Measuring connection (pressure, temperature, etc.)

I Product characteristics

- High-precision measurements with excellent repeatability
- Pulsation-free measuring principle
- Maximal measurement resolution if used with encoder
- IO-Link technology available
- Wide measurement ranges with appropriate design sizes
- Application-optimised specification
- Very low pressure drop
- Any flow direction (see preferred direction of encoder versions)
- Wide temperature range
- High working pressure
- Very low noise
- Highly-dynamic measurements
- Explosion-proof versions ATEX/IECEX
- Electronics in EMV-compliant version
- RoHS-compliant

I Function

Two high-precision screw spindles (2) with rolling-element bearings (3) for low friction. The liquid flow makes the spindles rotate (displacement principle) and runs through the device in axial direction. Flow in and out takes place without hardly any deflection, which means the device only loses comparatively little pressure. The measuring principle does not cause any pressure or volume flow pulsation. Because there is no need for settling sections on the inlet and outlet side, machines/plants can be designed to be more compact. All moving parts are lubricated by the measuring medium.

The spindle-mounted sensing wheel is scanned by two contact-free sensors by default. The plug is equipped with a pre-amplifier that converts the sensor signal into a square-wave signal which serves as output signal. The dual-channel scanning facilitates a higher measuring resolution and detection of the direction of flow. Alternatively available encoder specifications deliver maximal measurement resolution.

I Approvals

	Description	Country
	EU compliance – EMV – Pressure equipment – RoHS	European Union
	EAC EMV guideline	Eurasian Economic Community
	GOST metrology, measurement technology	Russia
	IO-Link	International

Description

I Standard version



The standard versions come with an integrated pre-amplifier which converts the pulses from the magnetic sensors into square-wave signals which are then computed by an electronics into specific measurement values.

The optionally available remote-electronics version is designed to handle extreme temperature ranges.

I Encoder version with maximised measurement resolution



Compared with standard sensors, encoders are capable of generating considerably more pulses, thus increasing measurement resolution by orders of magnitude. Encoder-equipped SVC flow meters generate up to 2 500 pulses per revolution and can recognise the direction of flow.

Encoders, like the standard versions, send square-wave signals to the electronics.

I IO-Link version with internal calculation of measured values



SVC flow meters with IO-Link technology are based on standard SVCs with two sensors. Unlike the versions with pre-amplifier which always send a square-wave signal to the electronics, IO-Link devices have the added capability of internally computing concrete measurement values. Therefore, these flow meters lend themselves for use in classic PLC and in IO-Link infrastructures.

Please see page 12 for details.

Technical data

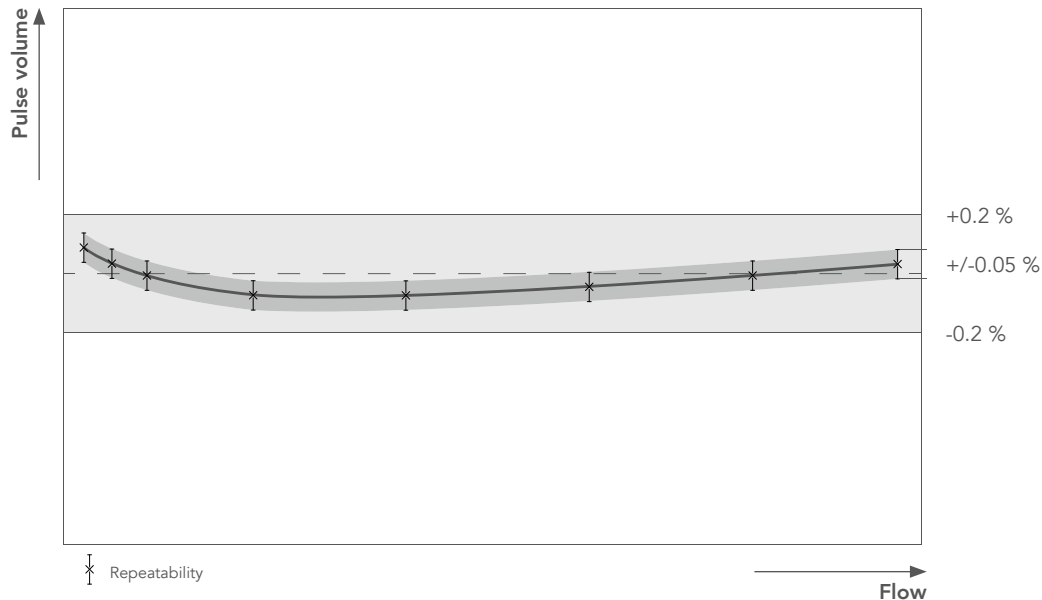
I General characteristics

Nominal sizes	4 · 10 · 40 · 100 · 250		
Type of connection	Pipe connection (R), SAE flange (S), DIN flange (D)		
Mounting position	Any		
Flow direction	Any		
Preferred direction of flow (only for encoder versions)	Large bearing > small bearing		
Typical measurement accuracy	+/- 0.2 % from 20 cSt viscosity values		
Maximum pressure (standard versions)	SVC 10	250 bar	/ 3,626 psi
	SVC 40	250 bar	/ 3,626 psi
	SVC 100	140 bar	/ 2,031 psi
	SVC 250	40 bar	/ 580 psi
Maximal pressure (high-pressure versions)	SVC 4	480 bar	/ 6,962psi
	SVC 10	480 bar	/ 6,962 psi
	SVC 40	480 bar	/ 6,962 psi
Maximum permissible pressure loss	Temporary	25 bar	/ 363 psi
	Permanent	7 bar	/ 102 psi (at 50 % of max. flow rate)
	SVC 100 (ATEX version)	10 bar	/ 145 psi
Ambient temperature	-40 ... 150 °C / -40 ... 302 °F		
Media temperature	-40 ... 210 °C / -40 ... 410 °F		
Viscosity	... 2 500 000 cSt (depending on flow)		
Sound pressure level	... 52 dB(A)		

I Accuracy characteristics

- The indicated measurement accuracy refers to the pulse volume, i.e. the percentage variance applies to the latest measurement value.
- The measurement accuracy is up to +/- 0.2 % of the measured value by default.
- Repeatability is +/- 0.05 % in stable conditions.
- The measurement accuracy tests performed can be traced to DAkkS (Deutsche Akkreditierungsstelle, German Accreditation Body).
- The measurement accuracy characteristics indicated by KRACHT is confirmed by DAkkS.
- A calibration is possible on request. The result of this calibration will be documented in the form of a measurement accuracy characteristic.

Typical measurement accuracy characteristic

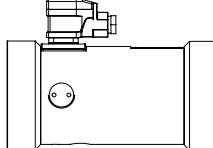
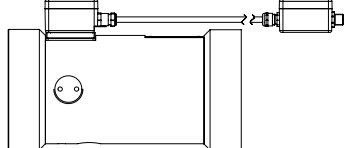


Technical data

I Materials

Housing and flanges	EN-GJS-400-15 (GGG-40)
Measuring spindles	Heat-treated steel
Ball bearing	Heat-treated steel
O-ring	FKM, EPDM, FEP, FKM low temperature

I Sealing elements and electronics temperature tolerance

Versions with integrated electronics	Versions with remote electronics
<p>Versions with appliance socket (Hirschmann) $T_{amb} = -40^* \dots 80 \text{ °C} / -40^* \dots 176 \text{ °F}$</p> 	<p>$T_{amb} = -40^* \dots 150 \text{ °C} \quad -40 \dots 80 \text{ °C}$ $T_{amb} = -40^* \dots 302 \text{ °F} \quad -40 \dots 176 \text{ °F}$</p> 

Electronics versions	Standard	High-temperature	ATEX version	IO-Link	Without pre-amplifier	Encoder	High-temperature PLUS	ATEX version high temperature PLUS
Type key ID	S	H	X	L	V	E	K	KX
Sealing material	Media temperature in °C / °F							
FKM		-30 ... 150 -22 ... 302	-15 ... 80 5 ... 176			-15 ... 80 5 ... 176	-	
EPDM	-30 ... 120 -22 ... 248	-	-30 ... 80 -22 ... 176		-40 ... 120 -40 ... 248	-20 ... 80 -4 ... 176	-	
FEP		-30 ... 150 -22 ... 302	-30** ... 80 -22** ... 176				-30 ... 210 -22 ... 410	-30** ... 180 -22** ... 356
FKM low temperature	-40 ... 120 -40 ... 248	-40 ... 150 -40 ... 302	-		-	-	-40 ... 150 -40 ... 302	-15 ... 200 5 ... 392

* For ATEX/IECEX: $T_{amb \text{ min FKM}} = -15 \text{ °C} / 5 \text{ °F}$
 $T_{amb \text{ min EPDM}} = -30 \text{ °C} / -22 \text{ °F}$
 $T_{amb \text{ min FEP}} = -30 \text{ °C} / -22 \text{ °F} **$
 $T_{amb \text{ min FKM low temp.}} = -15 \text{ °C} / 5 \text{ °F}$

** Devices produced up to and including 2019 can be used at temperatures of up to $-15 \text{ °C} / 5 \text{ °F}$

Technical data

I Standard versions characteristics

Nominal size	Pulse volume	Resolution	Resolution 4-fold*	Pulse frequency with Q_{max}	Measuring unit starting at		Measuring range
					Horizontal mounting position	Vertical mounting position	
	cm ³ /pulse in ³ /pulse	pulse/l pulse/gal	pulse/l pulse/gal	Hz	l/min gpm	l/min gpm	l/min gpm
10	1.4180 0.0865	705.20 2669.47	2820.9 10,678.27	1,763	0.05 0.013	0.02 0.005	1.0 ... 150 0.26 ... 39.63
40	5.1300 0.3131	194.90 737.78	779.7 2,951.49	1,950	0.10 0.026	0.02 0.005	4.0 ... 600 1.06 ... 158.50
100	9.8200 0.5993	101.80 385.35	407.3 1,541.8	2,546	0.15 0.040	0.03 0.008	10.0 ... 1,500 2.64 ... 396.26 (ATEX version) 10.0 ... 1,000 2.64 ... 264.17
250	18.2500 1.1137	54.80 207.44	219.2 829.76	3,425	0.90 0.238	0.06 0.016	25.0 ... 3,750 6.60 ... 990.65

I High-pressure versions characteristics

Nominal size	Pulse volume	Resolution	Resolution 4-fold*	Pulse frequency with Q_{max}	Measuring unit starting at		Measuring range
					Horizontal mounting position	Vertical mounting position	
	cm ³ /pulse in ³ /pulse	pulse/l pulse/gal	pulse/l pulse/gal	Hz	l/min gpm	l/min gpm	l/min gpm
4	0.2550 0.0156	3,921.60 14,844.87	15,686.3 59,379.1	3,921	0.03 0.008	0.01 0.003	0.4 ... 60 0.106 ... 15.850
10	0.7085 0.0432	1,410.44 5,339.10	5,641.8 21,356.5	3,534	0.05 0.013	0.02 0.005	1.0 ... 150 0.264 ... 39.626
40	5.1300 0.3131	194.90 737.78	779.7 2,951.5	1,950	0.10 0.026	0.02 0.005	4.0 ... 600 1.057 ... 158.503

* Resolution with both measuring channels and 4-fold evaluation

I Encoder versions characteristics

Nominal size	Sensor resolution*	Pulse volume	Resolution	Measured value resolution 4-fold**	Pulse frequency at Q_{nom}	Measuring unit starting at		Measuring range
						Horizontal mounting position	Vertical mounting position	
	pulse/rev	cm ³ /pulse in ³ /pulse	pulse/l pulse/gal	pulse/l pulse/gal	Hz	l/min gpm	l/min gpm	l/min gpm
10	512	0.078926 0.004816	12,670 47,961	50,681 191,848	21,117	0.05 0.013	0.02 0.005	1.0 ... 150 0.264 ... 39.626
10	2,500	0.016164 0.000986	61,866 234,188	247,463 936,749	103,110			

* More sensor resolutions available on request

** Resolution with both measuring channels and 4-fold evaluation

Type key

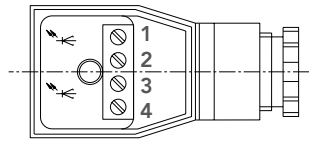
SVC	10	K	1	F	1	R	2	S	H
1	2	3	4	5	6	7	8	9	11

1 Product							
2 Nominal size							
4		10		40		100 250	
3 Bearing							
K				T			
Ball bearing				FKM cupsuled ball bearing (only nominal sizes 4 and 10)			
4 Material							
1				3			
Standard version Housing spheroidal cast iron GJS-400 / spindles steel				High-pressure version (higher resolution) Housing spheroidal cast iron GJS-400 / spindles steel			
5 Sealing							
F		E		P		L	
FKM		EPDM		FEP		FKM low temperature	
6 Surface							
1		2			3		
Standard (coated)		Coating Skydrol-resistant			Without coating		
7 Connection type							
R			S		D		
Pipe connection			SAE		DIN		
8 Sensors							
2	2 sensors						
5	Encoder (only nominal size 10)						
9 Electronic version (pre-amplifier)			Voltage	Media temperature		Conversion	Note
				in °C	in °F		
S	Standard		24 V	-40 ... 120	-40 ... 248	internal	
H	High temperature		24 V	-40 ... 150	-40 ... 302	internal	
K	High temperature PLUS		24 V	-40 ... 210	-40 ... 410	external	
X	ATEX/IECEx (isolating switching amplifier to be ordered separately)			-30 ... 80	-22 ... 176	internal	Pos. 11: only with H
KX	ATEX/IECEx High Temperature PLUS			-30 ... 200	-22 ... 392	external	Pos. 11: only with V
L	IO-Link		10 ... 30 V	-30 ... 80	-22 ... 176	internal	
V	Without pre-amplifier			-40 ... 120	-40 ... 248		
E	Encoder (only nominal size 10)		11 ... 30 V	-20 ... 80	-4 ... 176	internal	
10 Cable length							
Without cable between flow meter and electronic		2 With 2 m / 6.6 ft cable		5 With 5 m / 16.4 ft cable		10 With 10 m / 32.8 ft cable	
11 Electrical connection (plug and pre-amplifier case)							
H	Appliance socket (Hirschmann)		standard				
M	Appliance socket (Hirschmann)		with M12x1 4-pole connection				
C	Aluminum connection box		with Cannon plug KPTC				
V	Without						
512	Encoder with 512 pulse/rev		with M12x1 4-pole connection				
2500	Encoder with 2500 pulse/rev		with M12x1 4-pole connection				

Electronics

I Electrical connections

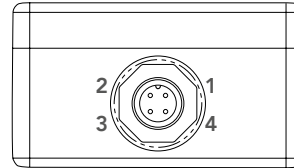
Standard and high-temperature versions



1: U _B (brown)
2: Channel 1 (green)
3: Channel 2 (yellow)
4: 0 Volt (white)

High-temperature PLUS and low-temperature version

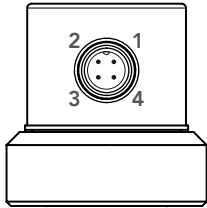
Connection plug arrangement (M12x1 4-pole round connector)



1: U _B (brown)
2: Channel 1 (white)
3: 0 Volt (blue)
4: Channel 2 (black)

Encoder version

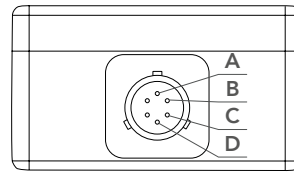
Connection plug arrangement (M12x1 metal/4-pole round connector)



1: U _B
2: Channel 1
3: 0 Volt
4: Channel 2

Cannon version

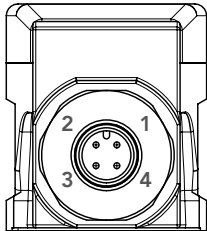
Connection plug arrangement



A: U _B (brown)
B: Channel 1 (green)
C: Channel 2 (yellow)
D: 0 Volt (white)

IO-Link version

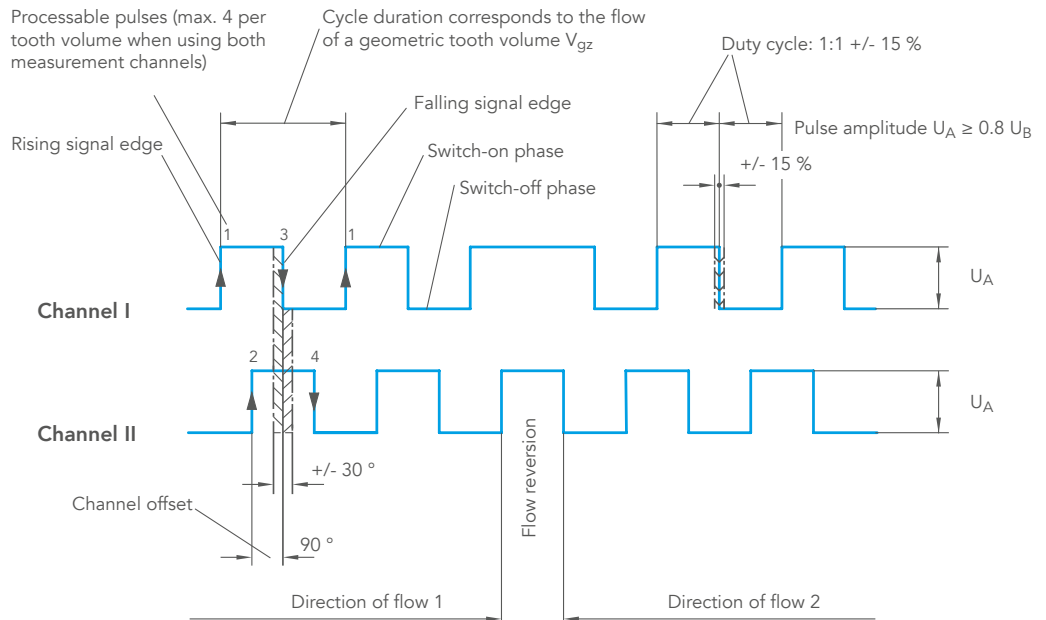
Connection plug arrangement (M12x1 metal/4-pole round connector)



	IO-Link mode	SIO mode
1: brown	U _B	
2: white	I/Q	Channel 1
3: blue	0 Volt	
4: black	C/Q	Channel 2

I Signal characteristics (standard, high-temperature, encoder, IO-Link versions in SIO mode)

The pre-amplifier generated square-wave signal enables application specific resolutions. Standard resolution means that the electronics will process one pulse from a channel/sensor per cycle time (rising signal edge in channel I). In contrast, the 4-fold evaluation uses the maximal pulse rate per cycle time, allowing for a resolution that is four times as high as in the standard evaluation. All characteristics of the signal (rising and falling signal edge of both sensors/channels) are exploited in the evaluation.



Electronics

I Standard versions electrical characteristics

Number of measuring channels	1 or 2
Working voltage U_B	24 V +/- 20 % or 12 V +/- 20 % for versions with reduced supply voltage
Pulse amplitude U_A	$\geq 0.8 U_B$
Pulse with symmetric output signal	Square duty factor/channel 1:1 +/- 15 %
Signal output	PNP / NPN
Pulse offset between the two channels	90 ° +/- 30 °
Power requirement $P_{b \max}$	0.9 W
Output power / channel $P_a \max$	0.3 W short circuit-protected
Protection rating	IP 65

I Encoder versions electrical characteristics

Number of measuring channels	2
Working voltage U_B	11 ... 30 V
Pulse amplitude U_A	$Min_{High} \geq U_B - 3 V$ $Max_{Low} \leq 2,5 V$
Pulse shape with symmetric output signal	Square , Duty factor/channel 1:1 +/- 15 %
Signal output	Push-Pull
Pulse offset between both channels	90 ° +/- 30 °
Maximum load	+/- 30 mA
Power consumption	Standard 45 mA Maximum 150 mA
Protection rating	IP 65

I IO-Link versions electrical characteristics

	IO-Link mode	SIO mode
Number of measuring channels	1 or 2	
Working voltage U_B	10 ... 30 V	
Pulse amplitude U_A	$Min_{High} \geq U_B - 2 V$ $Max_{Low} \leq 2 V$	
Pulse shape with symmetric output signal	-	Square duty factor/channel 1:1 +/- 15%
Signal output	active pull +/- 200 mA	
Pulse offset between the two channels	-	90 ° +/- 30 °
Power requirement $P_{b \max}$	1 W	
Protection rating	IP 65	

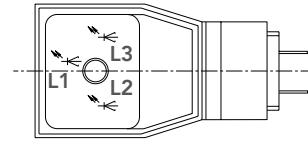
Electronics

I IO-Link general

Thanks to its international standardisation (IEC 61131-9), the IO-Link technology offers a point-to-point connectivity with continuous monitoring between any desired control layer and the SVC-IO-Link assembly. Handling and startup is made easy by the associated IODD file (IO Device Description) strongly simplified

The SVC-IO-Link assembly directly delivers all measured values with units. In the preset SIO mode (standard input output), the volume counter gives square-wave signals if the IO-Link mode is not enabled by an IO-Link master. This guarantees downward compatibility of the SVC-IO-Link assembly with the standard square-wave signal (see page 10).

I IO-Link connection plug

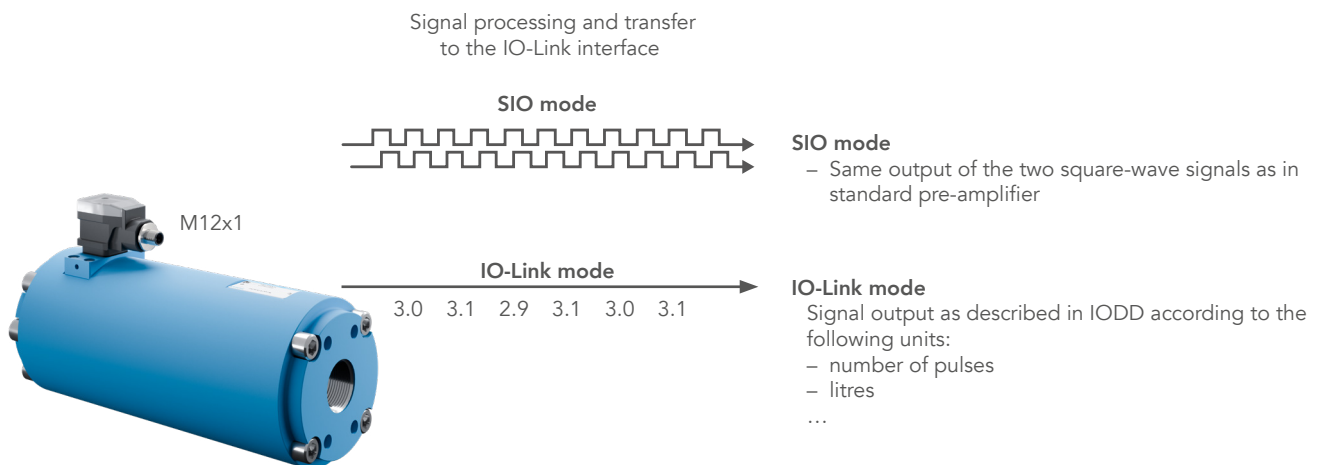


	IO-Link mode	SIO mode
L1 green	Flashing at 1/s	Continuous light, ready for operation
L2 red	Channel 1 gear detected = LED on gear not detected = LED off	
L3 red	Channel 2 gear detected = LED on gear not detected = LED off	

I IO-Link characteristics

Name	SVC
Manufacturer ID	0x0524
Device ID	0x000001
Name of manufacturer	Kracht GmbH
IO-Link connection plug	V1.1
Bit rate	COM3 / 230.4 kbit/s
Minimum cycle time	500µs
SIO mode supported	Yes
Use of indexed service data (IS DU)	Yes
Data storage (DS) possible	Yes

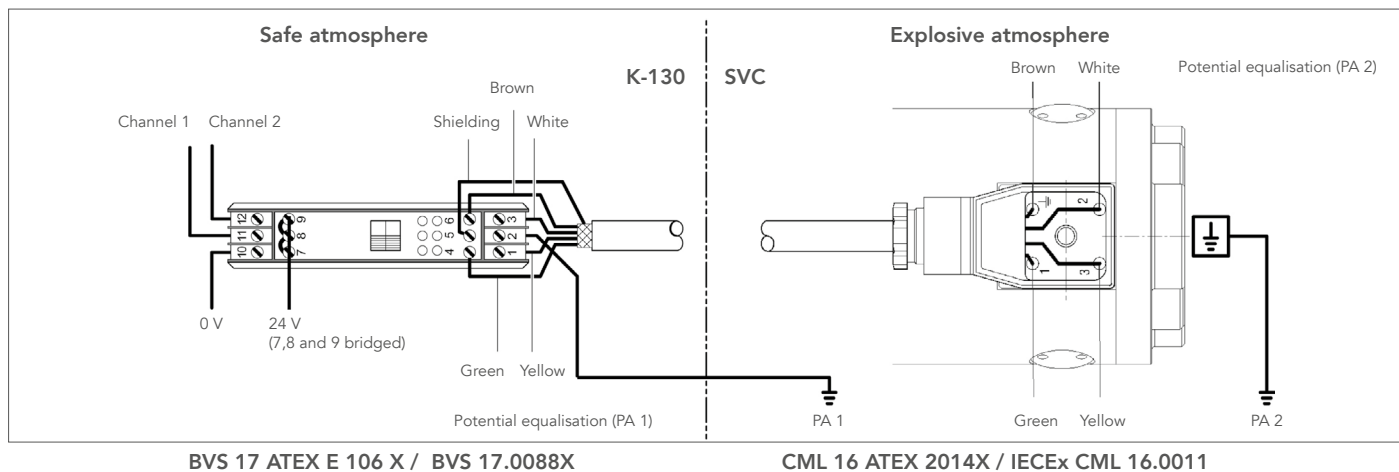
I Communication of the IO-Link assembly



Explosion-proof version (ATEX/IECEX)

I Function

- All screw type flow meters are available as explosion-proof versions according to ATEX and IECEx certification.
- The explosion-proof version consists of the flow meter (intrinsically safe electric gear) and the switching amplifier K 130 (accessory electric gear). This layout meets the ignition protection type "intrinsic safety".
- The flow meter is installed in the explosive atmosphere.
- The switching amplifier K 130 is assembled in the safe atmosphere.
- The flow meter is electrically connected with the switching amplifier. The switching amplifier analyses the sensor signals coming from the flow meter and converts them into square-wave signals.
- It is prohibited to deploy the flow meter in explosive atmospheres without switching amplifier.
- The cable between the flow meter and switching amplifier may be up to 400 m / 1312 ft long.
- The switching amplifier features LEDs to monitor for line breakage / short circuit, channel switching state, and voltage supply.



Notes

This drawing only serves as an example for the connection of the sensors to the isolating switching amplifier K 130. Observe the applicable standards when assembling a plant in an explosive atmosphere.

Ignition protection marking (device-dependent)

⊕ II 2G Ex ia IIC T4 Gb

⊕ II 2D Ex ia IIIC T135 °C Db

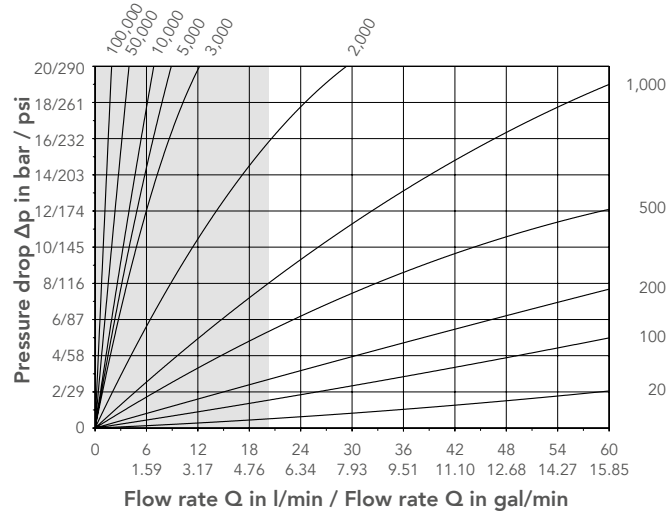
I Switching amplifier K-130 technical characteristics

Supply	
Supply voltage terminal 7 (L+), terminal 10 (L-)	DC 24 Volt +/- 20 %
Output (not intrinsically safe / nominal data terminals 9, 12, 8, 11)	
Electronic outputs	Electrically isolated via photocoupler
Signal level 1-signal	Output voltage > 15 V
Signal level 0-signal	Output voltage ≤ 5 V
Ambient conditions	
Low threshold temperature	248 K (-25 °C / -13 °F)
High threshold temperature	333 K (+60 °C / 140 °F)
Mechanics	
Dimensions	114.5 x 99 x 22 mm / 4.51 x 3.90 x 0.87 inch
Mounting	Can be snapped on to 35 mm / 1.38 inch sectional rail, DIN EN 60715

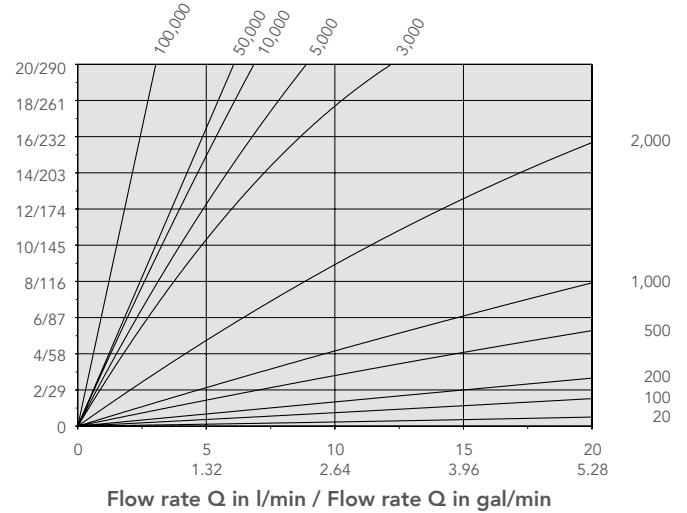
Pressure drop

I SVC 4 ... 40 Parameter: Viscosity in cSt

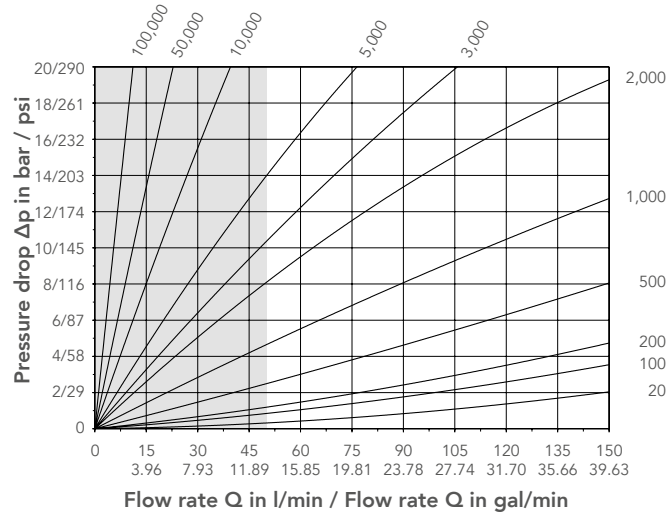
SVC 4



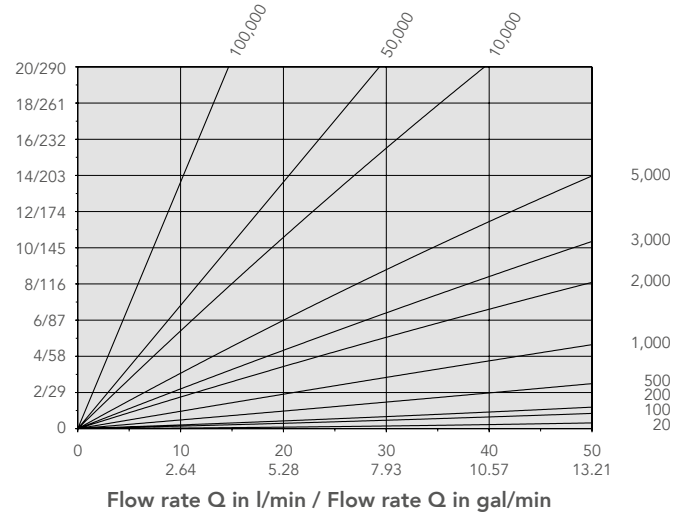
SVC 4 (section)



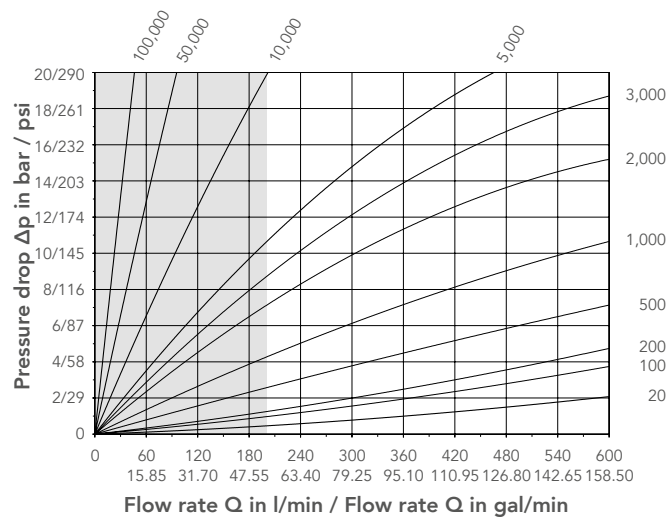
SVC 10



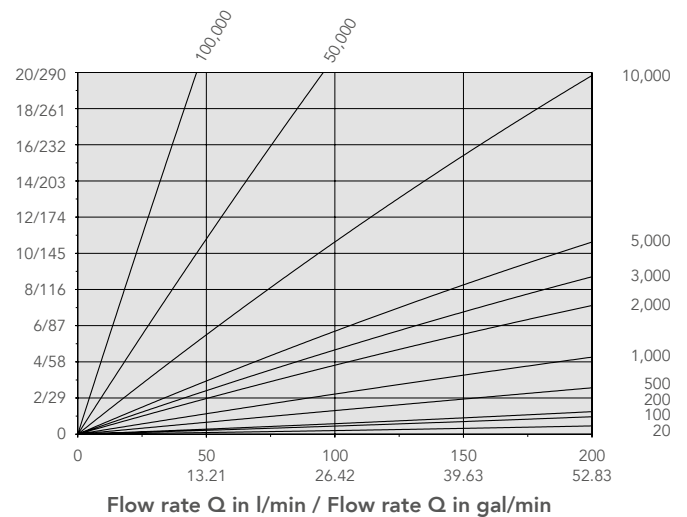
SVC 10 (section)



SVC 40



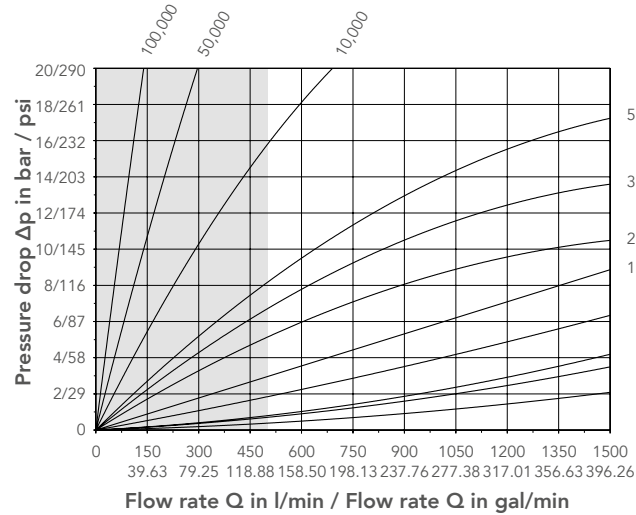
SVC 40 (section)



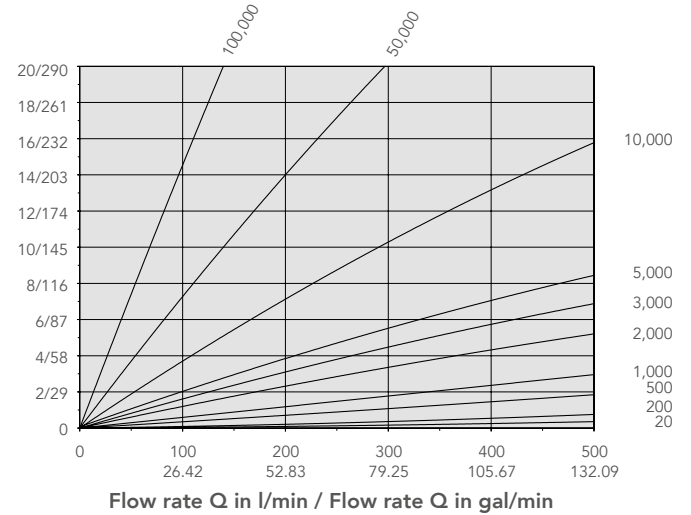
Pressure drop

I SVC 100 ... 250 Parameter: Viscosity in cSt

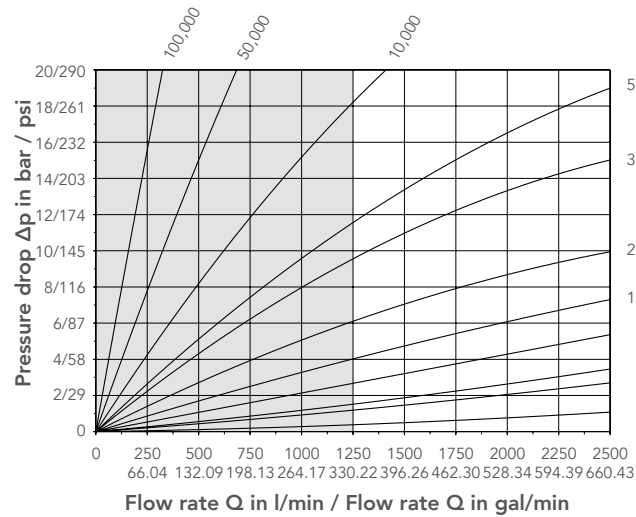
SVC 100



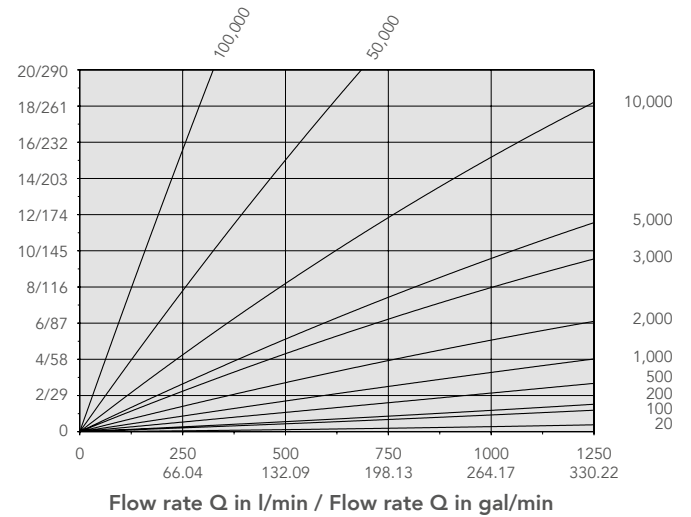
SVC 100 (section)



SVC 250



SVC 250 (section)



Technical drawings overview

Version	Nominal size	Electronic version	Page
High-pressure versions with high-res sensors	4	> Standard > High-temperature > ATEX/IECEX > IO-Link	17
High-pressure versions with high-res sensors	10	> Standard > High-temperature > ATEX/IECEX > IO-Link	18
2-sensor versions	10	> Standard > High-temperature > ATEX/IECEX > IO-Link	19
Versions with maximal sensor resolution	10	> Encoder	20
2-sensor high-pressure versions	40	> Standard > High-temperature > ATEX/IECEX > IO-Link	21
2-sensor versions	40	> Standard > High-temperature > ATEX/IECEX > IO-Link	22
2-sensor versions	100	> Standard > High-temperature > ATEX/IECEX > IO-Link	23
2-sensor versions	250	> Standard > High-temperature > ATEX/IECEX > IO-Link	24
Remote-electronics versions	4 ... 250	> High-temperature Plus > ATEX high-temperature Plus	On request

Dimensions

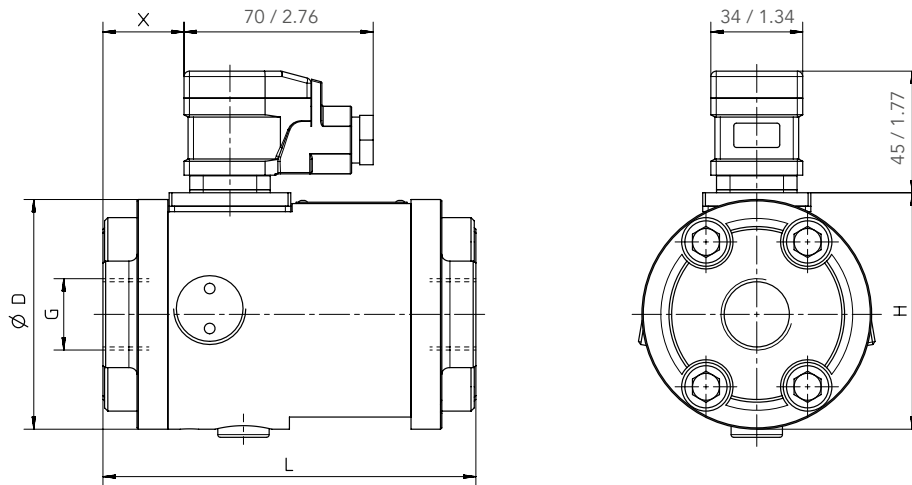
I SVC 4

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

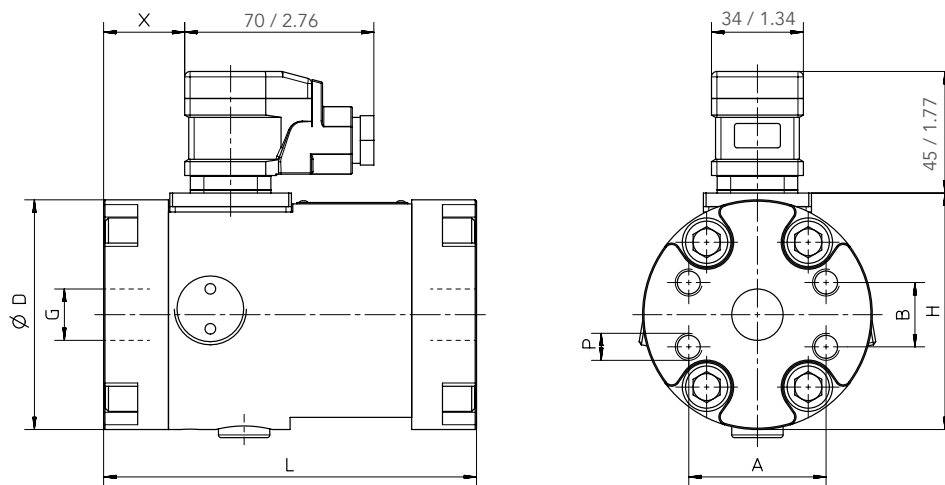
Type key ID			Dimensions								Weight
Material	Connection	Sensor	A	B	D	L	H	G	P	X	
3	R	2	-	-	85 / 3.35	138 / 5.43	87.5* / 3.44*	G ¾	-	30 / 1.18	4.7 / 10.4
3	S	2	50.8 / 2.0	23.8 / 0.94	85 / 3.35	138 / 5.43	87.5* / 3.44*	SAE ¾	M10 - 22 / 0.87 deep	30 / 1.18	5.0 / 11.0

* Electronics version H: plus 3 mm / 0.12 in

Pipe connection, high-pressure version, high-res sensor



SAE connection (Code 62), high-pressure version, high-res sensor



Dimensions

I SVC 10

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

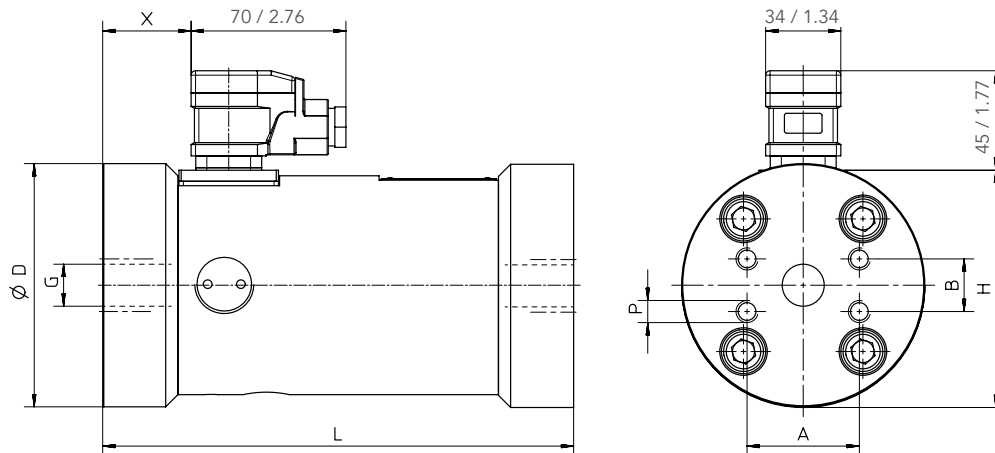
Type key ID			Dimensions										Weight
Material	Connection	Sensor	A	B	D	L	K	H	G	P	T	X	
1	R	2	-	-	99 / 3.90	196 / 7.72	-	101.5* / 4.00*	G 1	-	19 / 0.75	33 / 1.30	9.6 / 21.2
1	S	2	52.4 / 2.06	26.2 / 1.03	99 / 3.90	197 / 7.76	-	101.5* / 4.00*	SAE 1	M10 - 17 / 0.67 deep	-	32 / 1.26	9.6 / 21.2
1	D	2	-	-	140 / 5.51	265 / 10.43	100 / 3.94	167.0* / 6.57*	32 / 1.26	M16 - 25 / 0.98 deep	-	76 / 2.99	17.2 / 37.9
3	R	2	-	-	110 / 4.33	213 / 8.39	-	107.3* / 4.22*	G 1	-	23 / 0.91	40 / 1.57	11.3 / 24.9
3	S	2	50.8 / 2.00	23.8 / 0.94	110 / 4.33	213 / 8.39	-	107.3* / 4.22*	SAE ¾	M10 - 15 / 0.59 deep	-	40 / 1.57	11.3 / 24.9

* Electronics version H: plus 3 mm / 0.12 inch

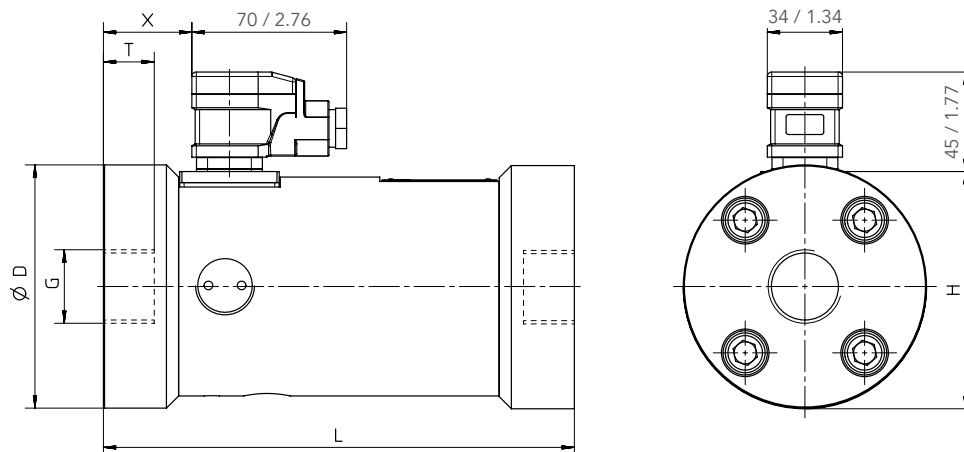
Available DIN flanges

Nominal bore DN	Pressure stage PN
32	40

SAE connection (Code 62), high-pressure version, high-res sensor



Pipe connection, high-pressure version, high-res sensor

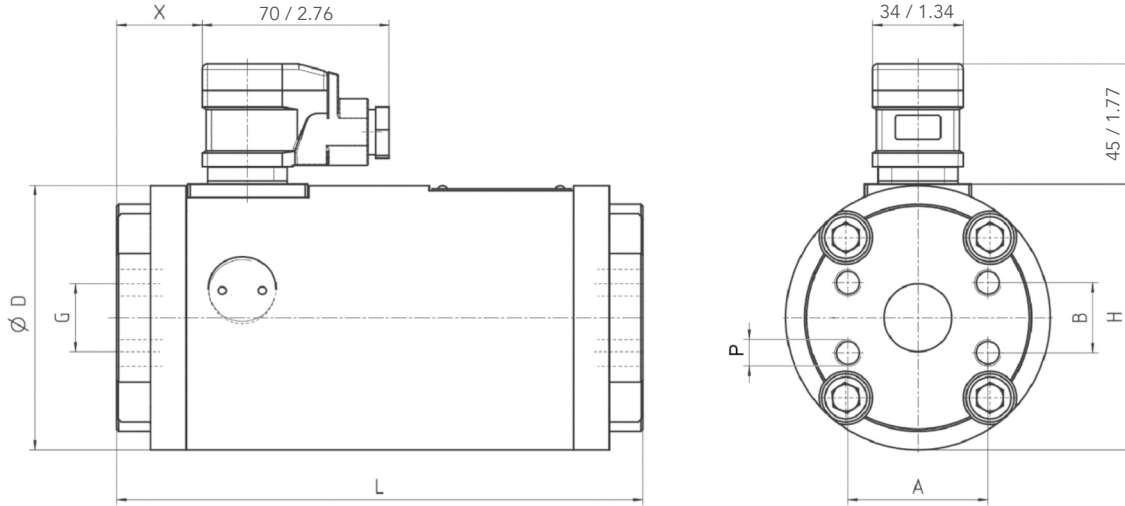


Dimensions

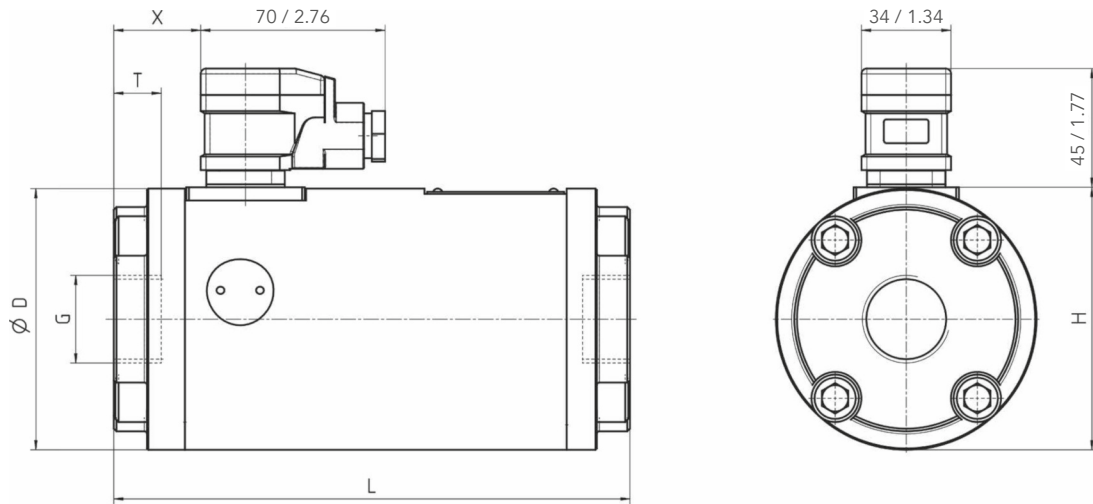
I SVC 10

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

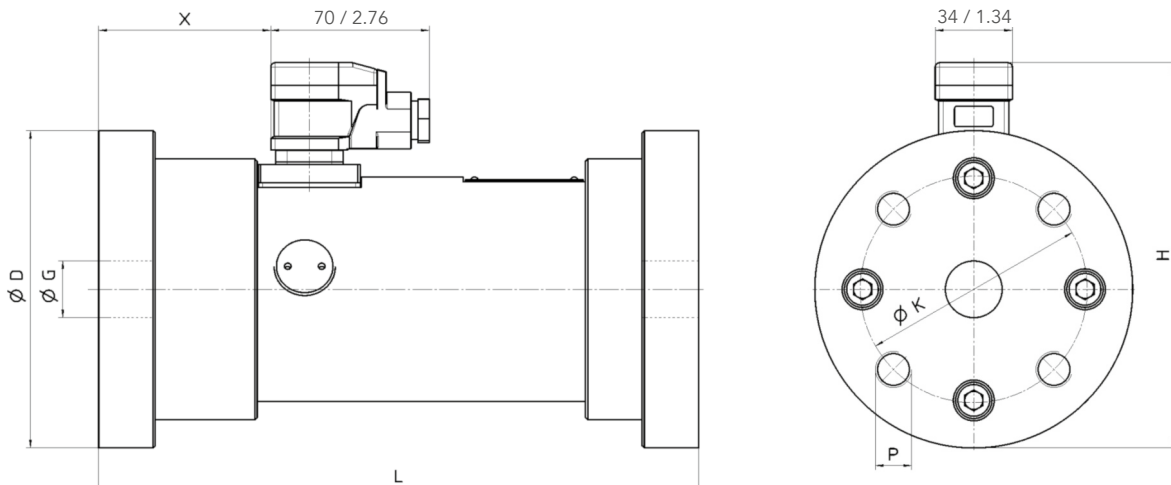
SAE connection (Code 61), 2 sensors



Pipe connection, 2 sensors



DIN connection, 2 sensors



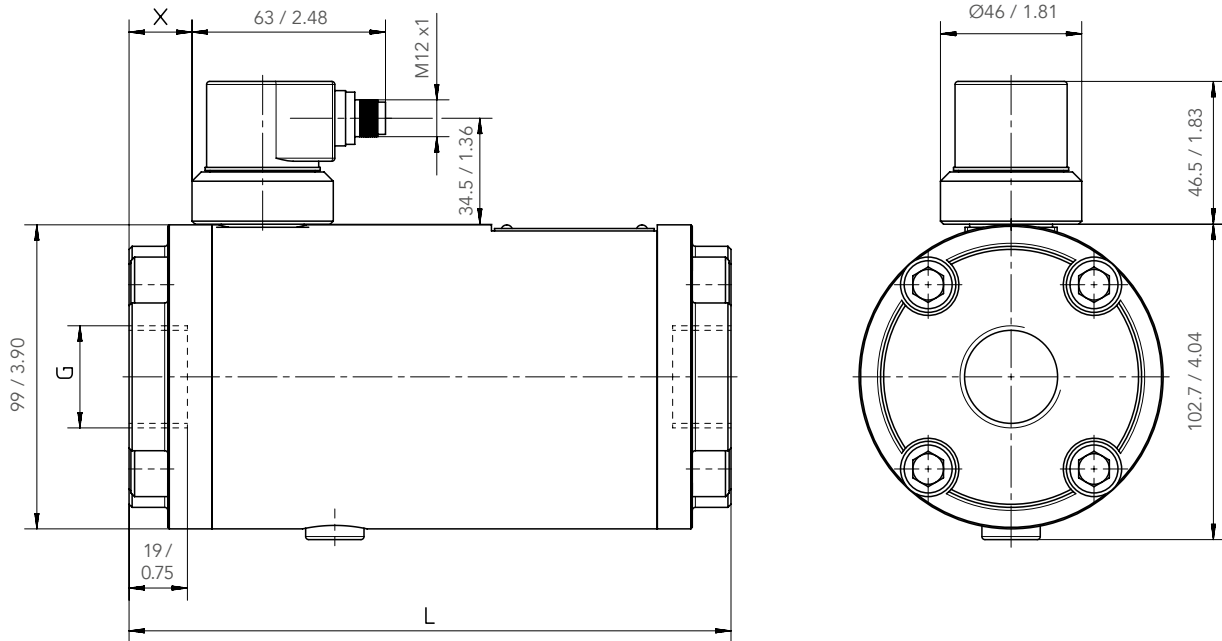
Dimensions

I SVC 10

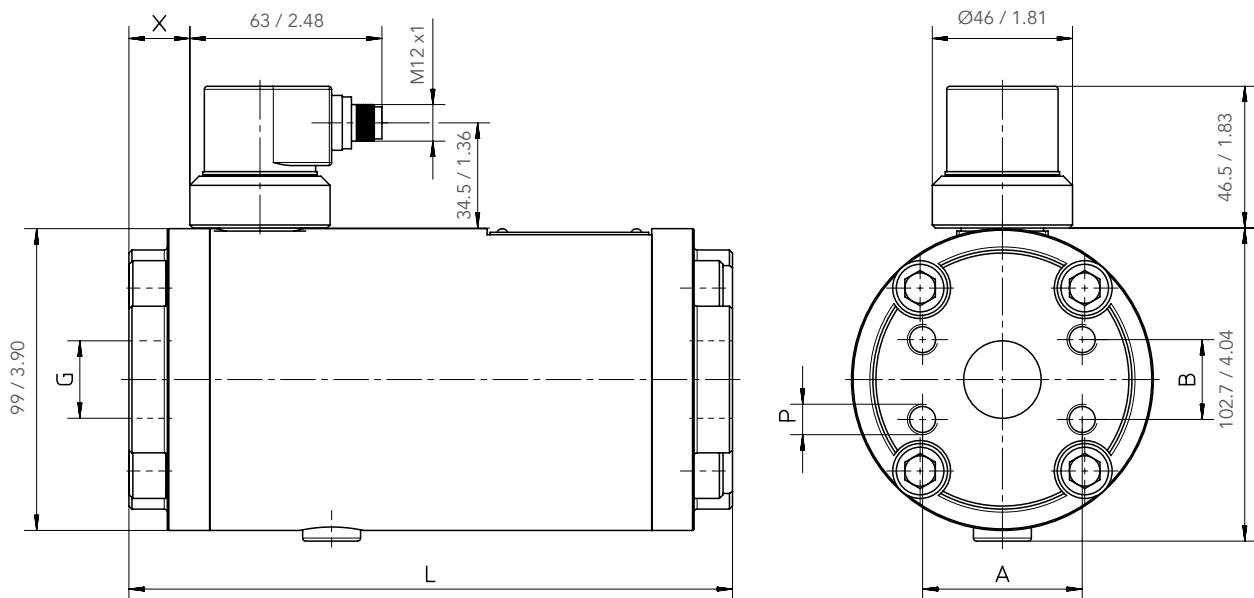
Electronics versions: encoder

Type key ID			Dimensions					
Material	Connection	Sensor	A	B	L	G	P	X
1	R	5	-	-	196 / 7.72	G 1	-	20.5 / 0.81
1	S	5	52.4 / 2.06	26.2 / 1.03	198 / 7.80	SAE 1	M10 - 17 / 0.67 deep	20.0 / 0.79

Pipe connection, maximal sensor resolution



SAE connection (Code 61), maximal sensor resolution



Dimensions

I SVC 40

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

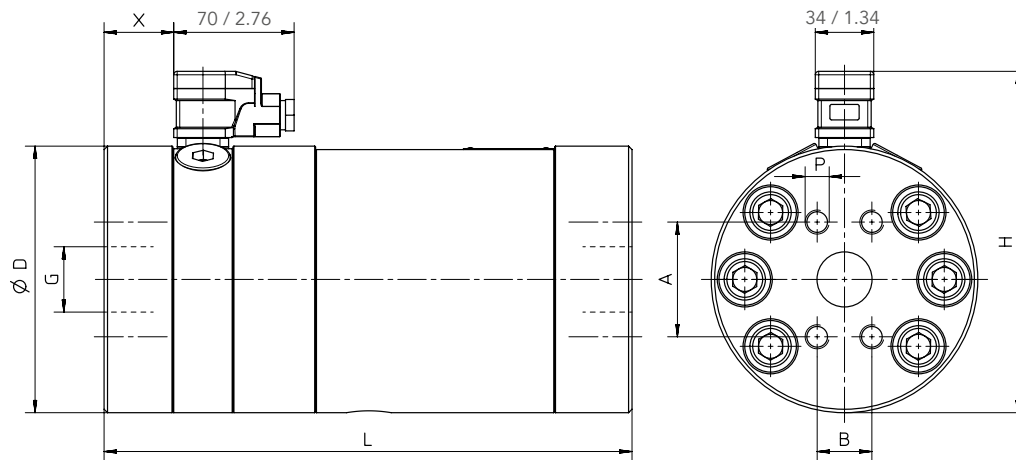
Type key ID			Dimensions										Weight
Material	Connection	Sensor	A	B	D	L	K	H	G	P	T	X	
1	R	2	-	-	121 / 4.76	265 / 10.43	-	123.5* / 4.86*	G 1½	-	23 / 0.91	26.0 / 1.02	18.0 / 39.7
3	R	2	-	-	155 / 6.10	307 / 12.09	-	198.5 / 7.81	G 1½	-	28 / 1.10	40.5 / 1.59	36.0 / 79.4
1	S	2	69.9 / 2.75	35.7 / 1.41	-	287 / 11.30	-	123.5* / 4.86	SAE 1½	M12 - 27 / 1.06 deep	-	38.0 / 1.50	18.9 / 41.7
3	S	2	66.7 / 2.63	31.8 / 1.25	155 / 6.10	307 / 12.09	-	198.5 / 7.81	SAE 1¼	M14 - 27 / 1.06 deep	-	40.5 / 1.59	36.0 / 79.4
1	D	2	-	-	150 / 5.91	285 / 11.22	110 / 4.33	183.0* / 7.20*	40 / 1.57	M16 - 20 / 0.79 deep	-	37.0 / 1.46	24.7 / 54.5

* Electronics version H: plus 11 mm / 0.43 inch

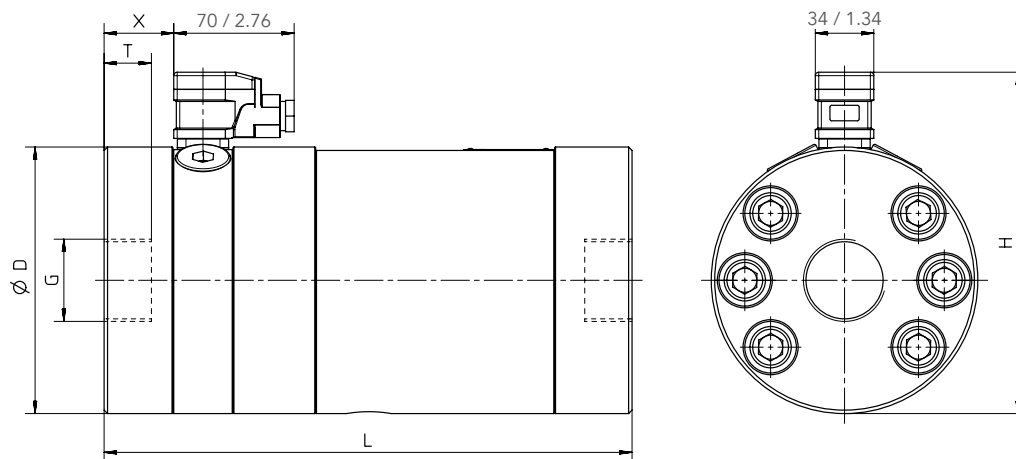
Available DIN flanges

Nominal bore DN	Pressure stage PN
40	40

SAE connection (Code 62), high-pressure version, 2 sensors



Pipe connection, high-pressure version, 2 sensors

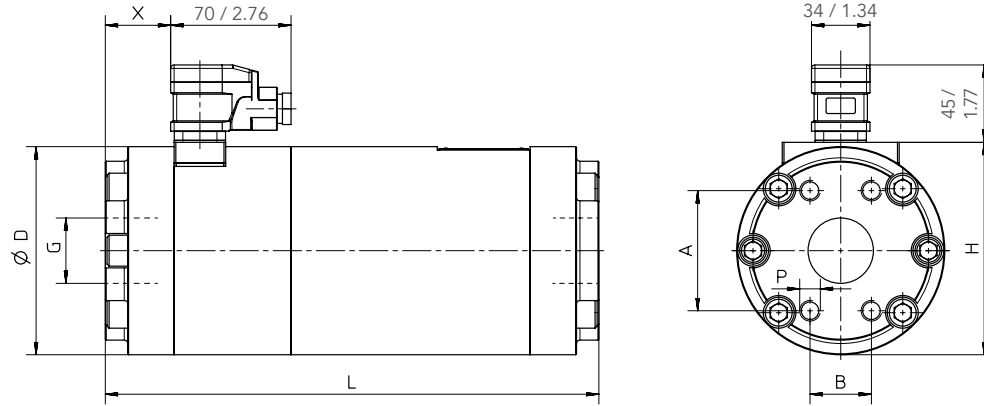


Dimensions

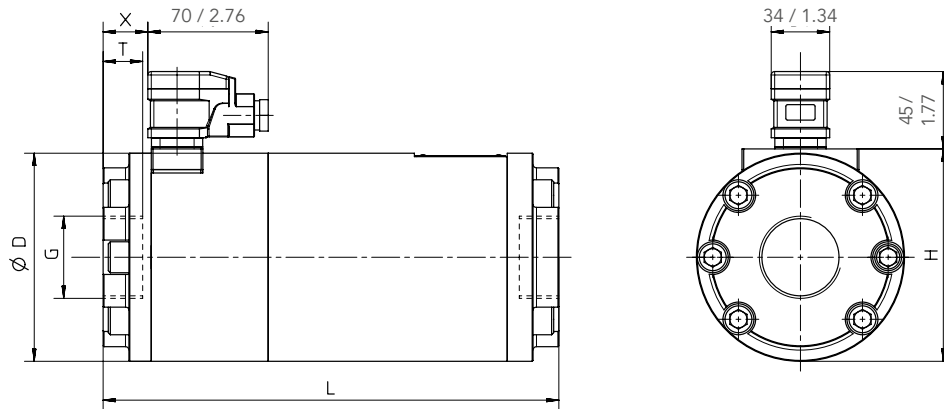
I SVC 40

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

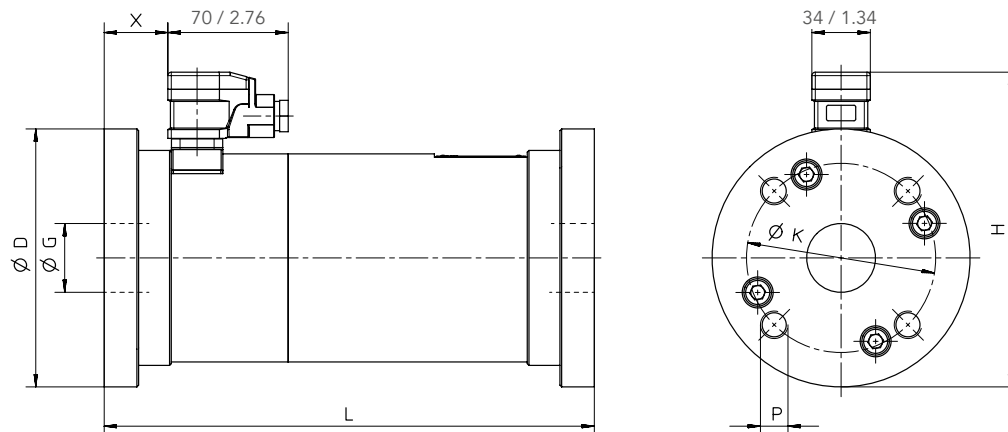
SAE connection (Code 61), 2 sensors



Pipe connection, 2 sensors



DIN connection, 2 sensors



Dimensions

I SVC 100

Electronics versions: standard / high-temperature / ATEX/IECEX / IO-Link

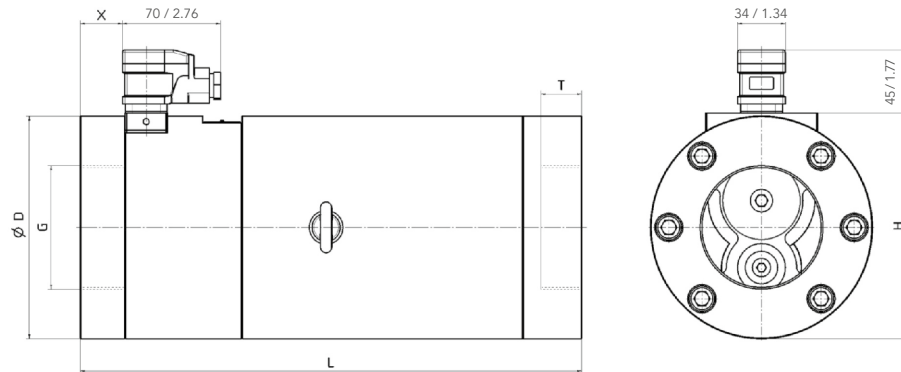
Type key ID			Dimensions										Weight
Material	Connection	Sensor	A	B	D	L	K	H	G	P	T	X	
1	R	2	-	-	158 / 6.22	357 / 14.06	-	160* / 6.30*	G 3	-	32 / 1.26	30 / 1.18	39.1 / 86.2
1	S	2	106.4 / 4.19	61.9 / 2.44	158 / 6.22	347 / 13.66	-	160* / 6.30*	SAE 3	M16 - 32 / 1.26 deep	-	32 / 1.26	38.7 / 85.3
1	D	2	-	-	200 / 7.87	365 / 14.37	160 / 6.30	226* / 8.90*	80 / 3.15	M16 - 25 / 0.98 deep	-	45 / 1.77	46.2 / 101.9

* electronics version H: plus 11 mm / 0.43 inch

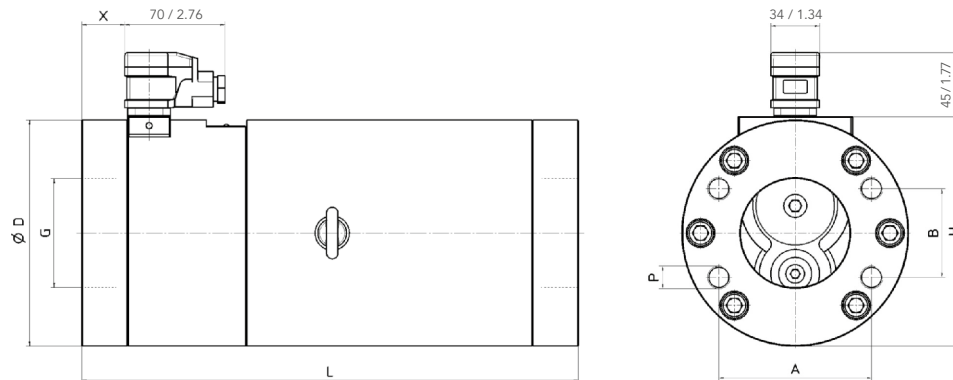
Available DIN flanges

Nominal bore DN	Pressure stage PN
80	40

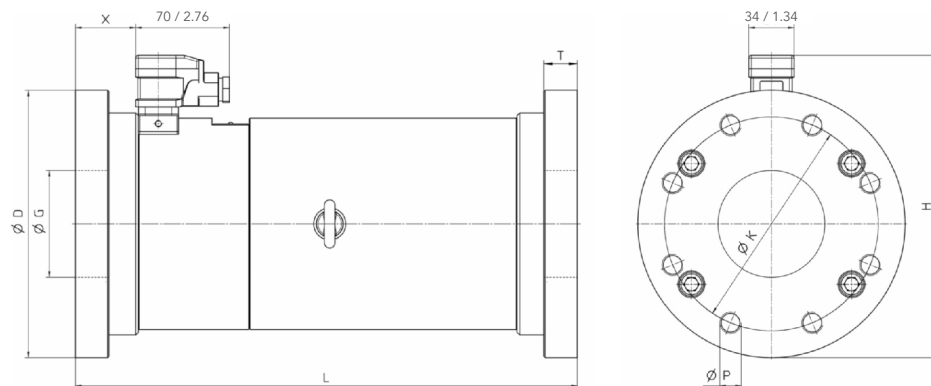
Pipe connection, 2 sensors



SAE connection (Code 61), 2 sensors



DIN connection, 2 sensors



Dimensions in mm / inch – Weight in kg / lbs

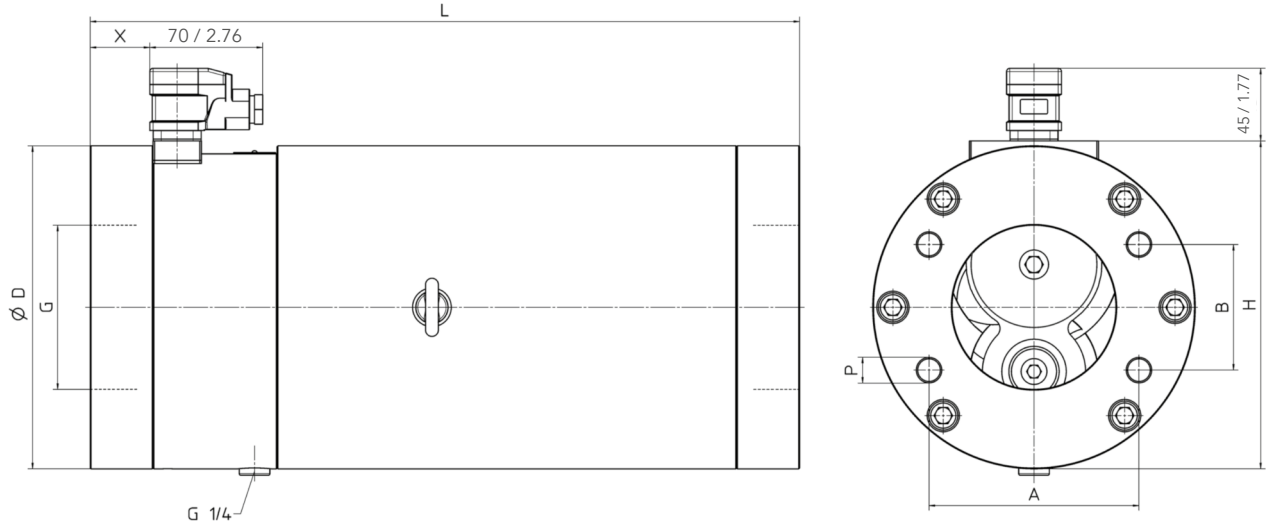
Dimensions

I SVC 250

Type key ID			Dimensions								Weight
Material	Connection	Sensor	A	B	D	L	H	G	P	X	
1	S	2	130.2 / 5.13	77.8 / 3.06	200 / 7.87	440 / 17.32	203* / 7.99*	SAE 4	M16 - 30 / 1.18 deep	37 / 1.46	76.0 / 167.6

* Electronics version H: plus 11 mm / 0.43 inch

SAE connection (Code 61), 2 sensors



Notes

Notes

Notes

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