



AM Instrumentering AS

Product Catalogue

Since 1994 we have been supplying the offshore, land and shipping industries.

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Pressure/Level Sensor MAS2600

Advantages:

- Titanium housing and diaphragm.
- Resistant to sea water and chemicals.
- Silicon strain gauge sensor.
- EMI protected.
- Interchangeable with existing transmitters.
- Programmable from 0.2 to 35 mH²O
- Strong, light and extremely corrosion resistant.

Description

The MAS 2600 tank contents transmitter is an electronic based transmitter designed for tank contents measuring application.

The MAS 2600 is a 2-wire 4-20 mA level transmitter consisting of a transducer and an amplifier connected via a 6-core vented cable.

The transducer is fully welded, housed in titanium with a titanium diaphragm and is submersible (IP68).

The amplifier is housed in a sea water-resistant polyester casing (IP56).

The transducer is a pressure sensitive silicon micro strain gauge sensor mounted in a glass to metal seal. The sensor is protected by an isolation diaphragm, electron beam welded to the transducer housing, with an oil filling between the sensor and the diaphragm.

Pressure changes in the front of the diaphragm will bring about a resistance change in the Wheatstone bridge of the transducer. This change in the Wheatstone bridge will be transmitted to the amplifier as a change in the electrical signal.

The MAS 2600 is manufactured in 4 programmable ranges from 0-3.5 mH²O to 0-35 mH²O, and available with a built-in Pt100 Sensor.

Application:

The MAS2600 has been developed for level measuring in ballast, oil, service and fresh water tanks as well as tanks containing media which are not hostile to titanium.

Type Approvals:

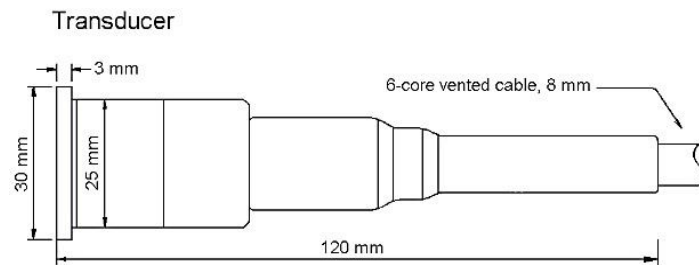
DNV, GL, LRS, MRS, BV, RINA, KRS, ABS, PRS.
CE marked in accordance with EU directive

Sensor Type:

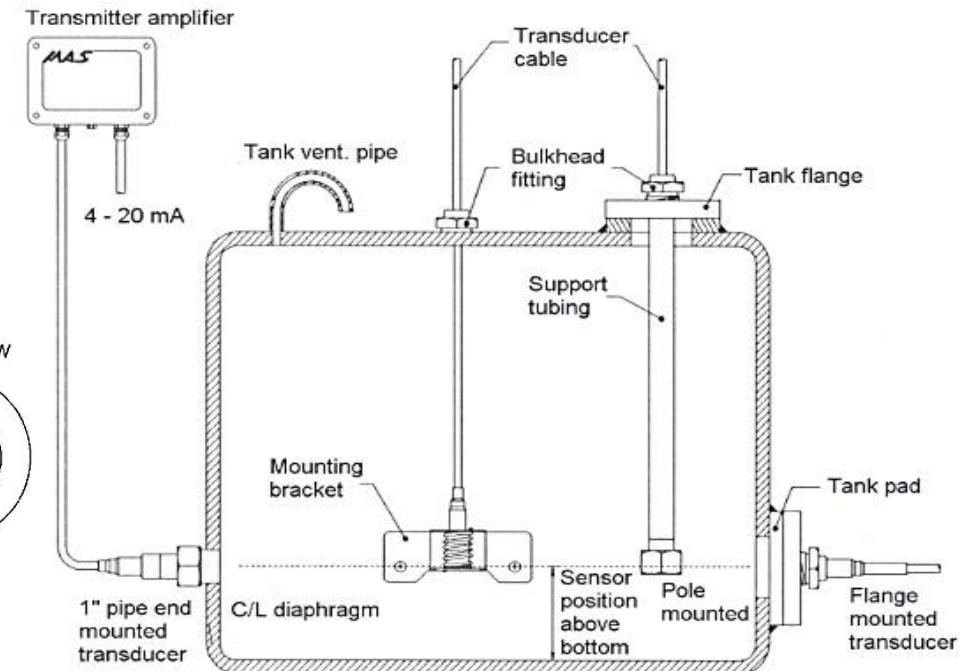
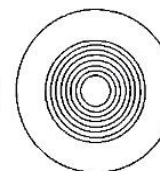
MAS2600-G20-05-0/00
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MAS2600-G30-10-0/00
MAS2600-G30-15-0/00
MAS2600-G30-20-0/00

MAS2600-G40-05-0/00
MAS2600-G40-10-0/00
MAS2600-G40-15-0/00
MAS2600-G40-20-0/00



Front view



For more applications, info, and details,
visit our web site or contact Us.

Rosemount 520 Pressure/Level Sensor



Specifications

Communication Protocol 4-20mA / HART
Enclosure Rating IP68
Operating Temperature -40 to 85C
Housing Material Titanium
Dimensions $\varnothing = 25$ mm, height=193 mm
Weight 0.17 kg
Explosion Protection Ex ia IIC T4 Ga

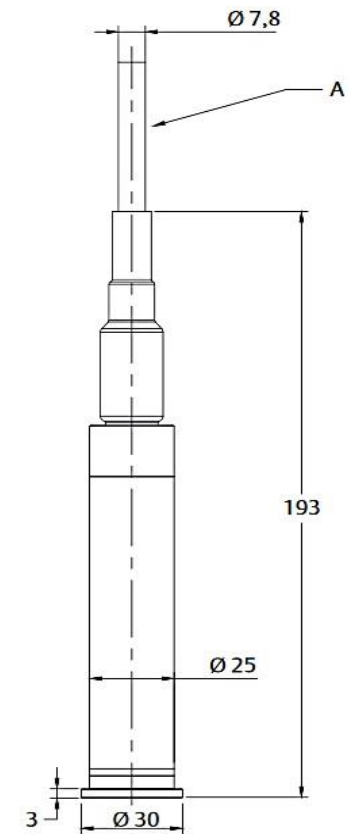
Features

- Designed and approved for harsh marine environments.
- Suitable for installation in virtually any tank gauging application.
- Enhanced performance with 5-year stability guarantee.
- HART® capabilities.
- Superior overpressure protection ensures trouble-free ownership.
- Engineered to reduce calibration frequency, reducing your maintenance costs.
- Wide range of installation options makes the transmitter suitable for all tank types.
- Up to 25:1 rangeability not only allows you to be flexible, but also reduce inventories.

For more applications, info, and details,
visit our web site or contact Us.



Dimensional Drawings Rosemount 520 Level Transmitter



A. Transmitter cable

Pressure/Level Sensor MAS2600 Installation Accessories



Skotte 500 – 1000
For cable penetration
Stainless steel



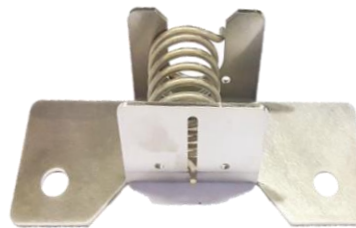
Skotte 500 – 1000
For cable penetration



Pole Mounting
Stainless steel



Pipe End Mounting
Stainless steel



**MAS2600 Bracket for internal
mounting** Stainless steel



Flange Mounting
Stainless steel

DN25
DN40
DN50

Test Calibrator Kit For MASS2600 Pressure/Level Sensor

MAS2600 PRESSURE CALIBRATOR KIT

The MAS2600 Pressure Calibration KIT consists of all you need to make highly accurate pressure calibrations and is supplied in a carry case.

The Calibrator KIT includes the DPI802P Calibrator, PV210 Hand Pump, Carry case, MAS2600 test cup and a MAS2600 amplifier connector.

DPI802P Calibrator

- Pressure indicator.
- mA measure with 24V loop power.
- Switch test.
- Leak test.
- HART resistor.
- Large dual display with back-light.
- Range: -1 to 3,5 bar.
- Accuracy: 0.01% FS.
- Power supply: 3 x AA Alkaline batteries.
- Duration: >50 hours (measurement) >10 hours (24V source at 12.5 mA).

PV210 Hand Pump

The PV210 low pressure pneumatic hand pump is fully portable and easy to use. This precision unit gives pneumatic pressure and vacuum.

Range: -0.9 to 3.0 bar.

Test Calibrator Kit for MAS2600



PV210



PV210



For more applications, info, and details,
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KlaySann8000 – Level Sensor



Klay Sann 8000

- STRONG DIAPHRAGM
- ACCURACY 0,2% or 0,1%
- ZERO/SPAN ADJUSTABLE
- HIGH BURST PRESSURES
- RUGGED AND COMPACT DESIGN
- OUTPUT 4-20 mA
- TEMPERATURE COMPENSATED
- INTRINSICALLY SAFE ATEX II 1 G Ex ia IIC T4 Ga

The series **8000-SAN** is a range of “All Stainless steel” pressure / Level transmitters with a strong “flush mounted diaphragm” which can withstand high overpressures. Zero and span are internally adjustable over a wide range and the accuracy is 0.2% from adjusted span.

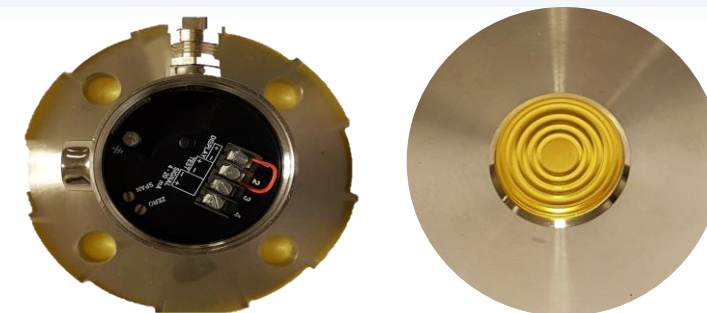
Typical applications are:

Level measurement on: Cargo tanks, Service tanks like fresh water and waste water tanks, HFO tanks, Liquid mud / brine tanks, etc.

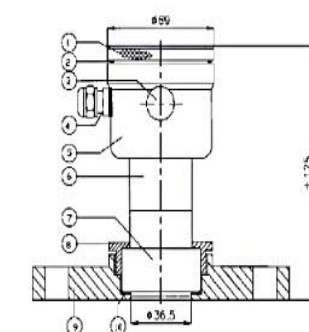
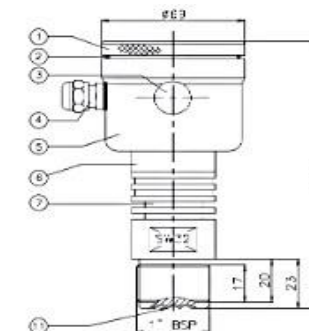
Specifications series 8000:

- Accuracy : 0,2% from adjusted span
- Ranges : 0,08 bar to 350 bar
- Output : 4-20 mA, 2-wire
- Power supply : 12 to 36 Vdc (Exi: 13-26,5 Vdc)
- Protection : IP66 (option: IP68)
- Process temperature : -20°C to + 100°C
- Wetted parts : AISI 316L (standard)
- Gold plated diaphragm

Order code: 8000-San-E-F-Ex-G9-16-31



Order code			8000-				
Order code for Flanged process connection			8000-SAN-				
measuring range (bar)	maximum overpressure (bar)	adjustable span-range min. - max.(bar)					
0 - 0,1 ...0,4	6,4	0 - 0,1 / 0 - 0,4	B				
0 - 0,4 ...0,7	6,4	0 - 0,4 / 0 - 0,7	C				
0 - 0,7 ...1,5	10,5	0 - 0,7 / 0 - 1,5	D				
0 - 1 ...4	16	0 - 1 / 0 - 4	E				
0 - 2,5 ...10	30	0 - 2,5 / 0 - 10	F				
0 - 7,5 ...16	80	0 - 7,5 / 0 - 16	G				
0 - 16 ...50	120	0 - 16 / 0 - 50	H				
0 - 20 ...80	200	0 - 20 / 0 - 80	I				
PROCESS CONNECTIONS:							
- G1" (1" BSP) threaded connection (flush diaphragm)			S				
- Flanged DIN or ANSI, all sizes available (specify size)			F				
OPTIONS:							
- Digital local Indicator 3 1/2 digit, programmable				I			
- Vacuum Ranges (Specify relative or absolute). Compound range available (example -1 / +1 bar)					V		
- Intrinsically safe: ATEX II 1 G EEx ia IIC T4						Ex	
- IP68 protection, vented cable mounted on cable entry (Specify cable length).							G6
- Hasteloy C diaphragm							G7
- Electronics housing AISI 316 (AISI 304 is standard)							G9
- Gold plated diaphragm							G16
- Process connection 1/2" BSP M. (By adapter)							G21
- Process connection 1/2" NPT M. (By adapter)							G35



Tank Radar VEGAFLEX 81

VEGAFLEX 81

4 ... 20 mA/HART – two-wire

TDR sensor for continuous level and interface measurement of liquids

Application area:

With VEGAFLEX 81 you can measure all kinds of liquids essentially maintenance free. The sensor delivers precise and reliable measured values even in applications with steam, build-up, foam generation or condensation. VEGAFLEX 81 is a truly cost-effective level and interface sensor for your measuring task.

Your benefit:

- The guided adjustment enables a simple, time-saving and reliable setup
- Comprehensive diagnosis options ensure maintenance-friendly operation and thus high plant availability
- Short enable probes allow simple standardization and maximum flexibility in planning

Function:

High frequency microwave pulses are coupled onto a cable or rod and guided along the probe. The pulse is reflected by the product surface. The time from emission to reception of the signals is proportional to the level in the vessel.

Technical data:

Measuring range

-Cable probe up to 75 m (246.1 ft)

-Rod probe up to 6 m (19.69 ft)

Measuring accuracy ± 2 mm

Process fitting Thread from G $\frac{3}{4}$, $\frac{3}{8}$ NPT; flanges from DN 25, 1"

Process pressure -1 ... +40 bar/-100 ... +4000 kPa

(-14.5 ... +580 psig)

Process temperature -40 ... +200 °C (-40 ... +392 °F)

Ambient, storage and transport temperature

-40 ... +80 °C (-40 ... +176 °F)

Operating voltage 9.6 ... 35 V DC



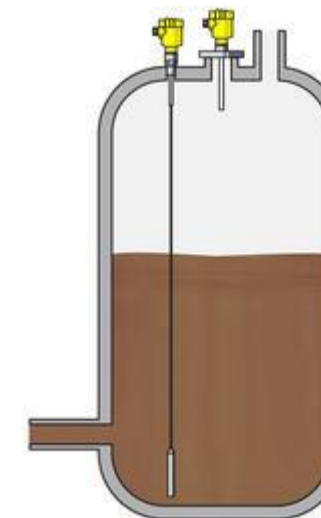
VEGACONNECT



display and adjustment module

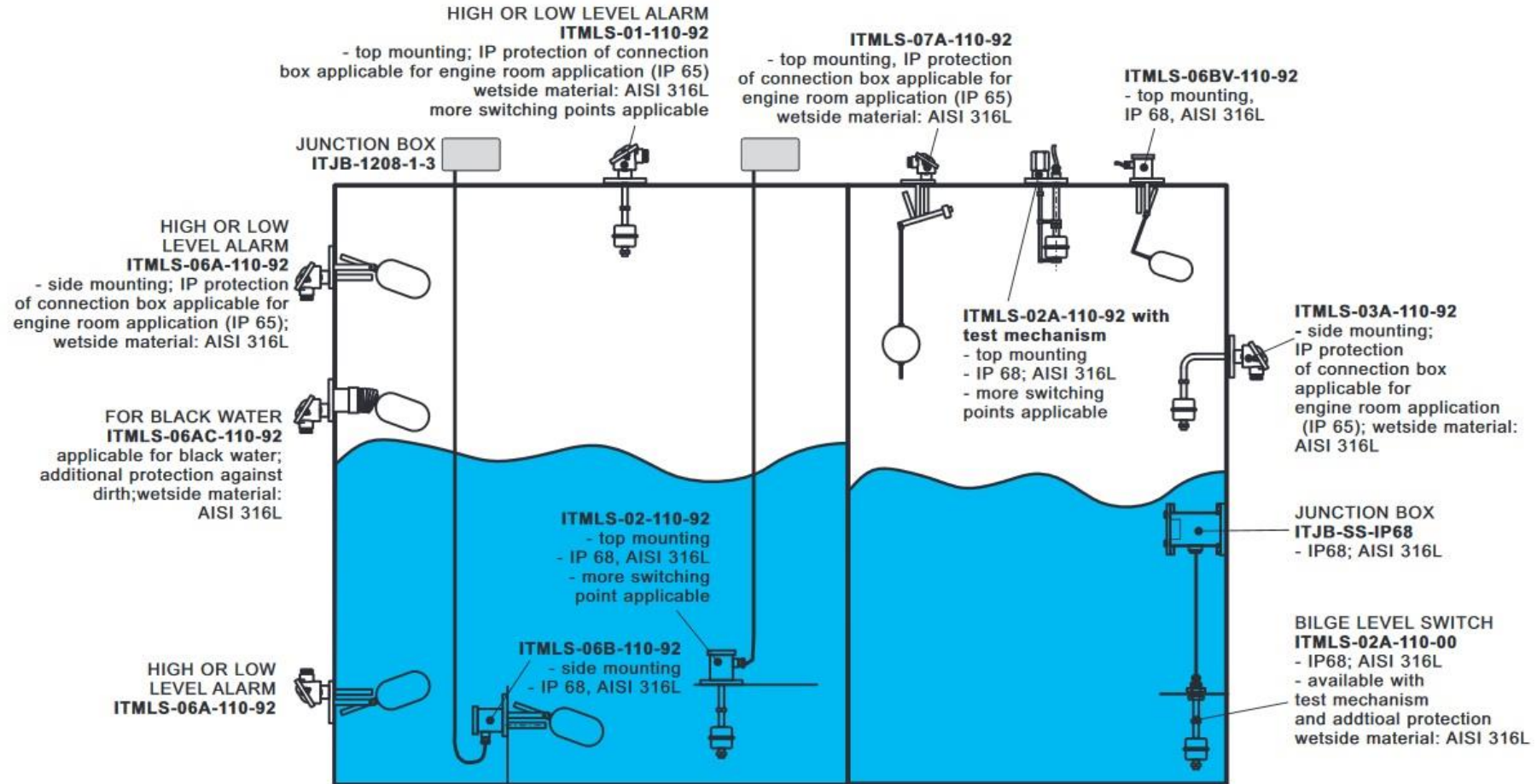


VEGATRENN 149A Ex



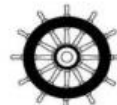
For more applications, info, and details,
visit our web site or contact Us.

MAGNETIC LEVEL SWITCHES



NOTES:

All level switches possible with test mechanism. Higher IP protections on request. Other process connections on request. For more details and dimensions pls. check drawings.



Lidex Level Switch Alarm Sensors

Series
L20D – 70D
L20D, 75mm – 120mm – 200mm

The Lidex level switch type L20D, designed for maritime applications, is based on the wave propagation in metal principle.

This Concept is completely static, without vibrations or moving parts. The reliability of the device is ensured by a self-monitoring function which signals electronic or transducer failures. Lidex L20D is designed to be installed horizontally (or vertically). Also, it requires no calibration as not influenced by type of fluid.

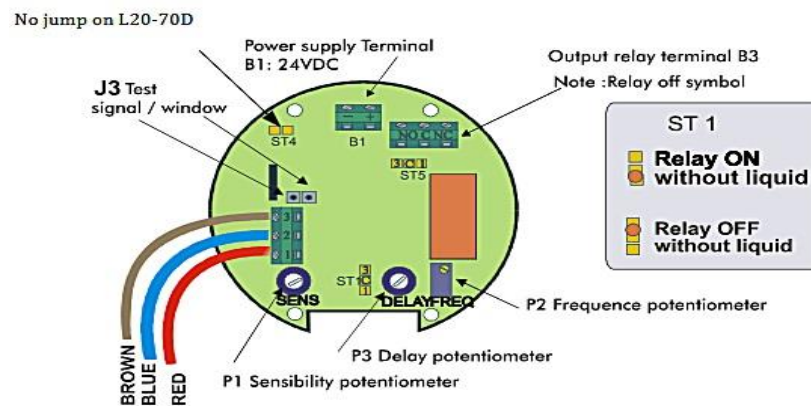
Technical data:

- Accuracy: ± 2 mm
- Pressure: 25 bars
- Protection class: IP65
- Intrinsically safe Cenelec EEx ia IIC T6
- Power supply: 18 to 36 VDC (28 VDC max. for I.S.)
- Operating temperatures:
– ambient temperature: -25°C $+70^{\circ}\text{C}$
– liquid temperature: -40°C $+150^{\circ}\text{C}$

Special features:

- Head: Aluminium
- Probe: Stainless steel 316L
- Lengths: L= 75, 120 or 200mm
- Fitting, 1/2" BSP
- Current output:
L20D: in liquid 6 mA
outside liquid 18 mA

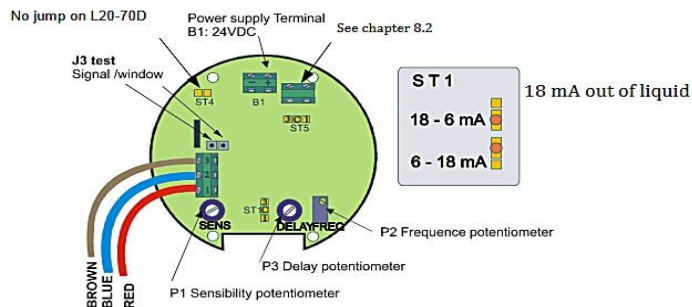
Setting with relay option



OUTPUT SETTING

ST4 and ST5 are factory preset
ST1 :

Setting without relay option



L20-70 D- Polyester housing



L20-70 D- Polyester housing

Description:

•The Lidex type L20-70D, is specially designed for water ingress detection and offers a dependable solution for detecting the presence of liquids within dry cargos. The Lidex L20-70D is based on the propagation of a surface wave. This design does not include any moving part. The reliability of the device is ensured by a built-in function which monitors electronic or transducer failures.

•The polyester housing is designed to be installed in areas protected against adverse weather conditions. The Lidex L20-70D does not require any calibration as it is not influenced by the surrounding cargo (e.g. coal, cement, or any powdery substance).

Technical data:

- Accuracy: ± 2 mm
- Operating temperature: -25°C to $+60^{\circ}\text{C}$
- Cargo temperature : up to 70°C max.
- Intrinsically safe: II 1 G/D EEx ia IIC T5 II 1 G/D EEx ia IIB T5
- Power supply: 18 to 28 Vdc (24 Vdc nominal)
- Protection class: IP68 for connecting box IP68 for sensor up to 100m depth
- Special features:**
- Materials: – Probe: Stainless steel 316L – Connecting box : Polyester
- Horizontal or vertical mounting
- The L20-70D operates even with cargos that may absorb water to form a past
- Output signal:
20 mA (outside liquid)
7 mA (detection of liquid)
- Cable length: up to 30m max.

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters Vertical Metering ZCE5-V

Metering Solutions for Oil depots and terminals.

DEPOT APPLICATIONS:

The Satam line of metering units for depot applications is designed for truck and train tankers loading stations in a top or bottom loading configuration. The compact, vertical or horizontal measuring unit enables easy installation in smaller facilities.

Sectors of application:

- Tanker trucks and railcars loading meters
- Preparation of bio-fuels by means of online or batch blending
- Measurement of white products and bio-fuels
- Additive injection control

Key Points:

• Low maintenance cost

Simple and robust construction with minimal moving mechanical components

• Low installation cost

Compact metering unit for installation in smaller areas

• Safe Use

Measuring system supplied “fully assembled” and tested in the factory in order to ensure maximum reliability

• Measurement stability and accuracy

Measurement accuracy guaranteed over a period of many years without any deviation in the calibration curve

• Modular Design

Extensive line of accessories to create customised measurement applications



For more applications, info, and details,
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Cargo Bunkering Flowmeters SATAM SAS ZC17.80/ 330



ZC.17.80/330

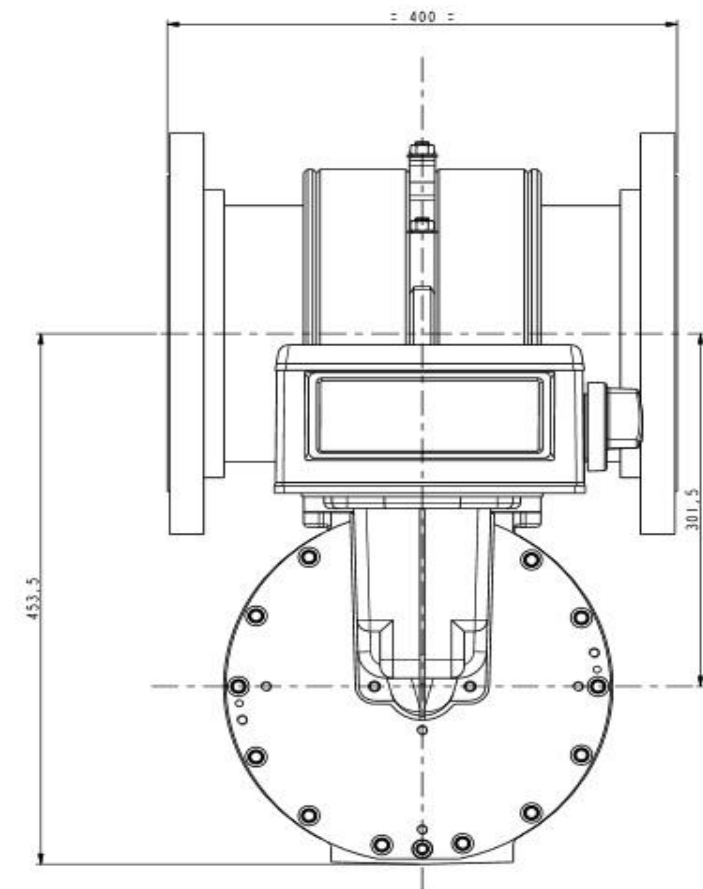
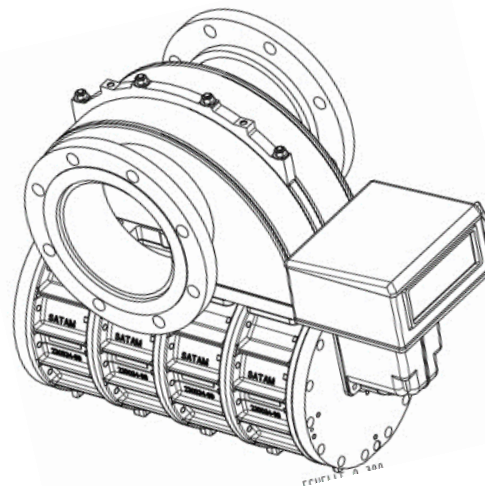
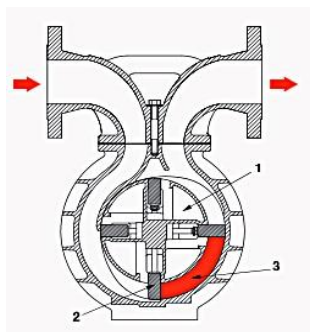
- SATAM SAS type ZC17/330 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: NI.-Resist ASTM 436 Type II
- *End Cover: Steel
- *Wings: Carbon
- Dimensions: DN200 – PN10/16
- Flow range: 33-330 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 120°C
- Max pressure: 10 bar
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right

SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

- Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.
- High accuracy over a wide range of flow rates.
- Very low repeatability error, less than 0.04%.
- Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.
- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.



For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.80/ 250 – 80/250



ZC17.80/250

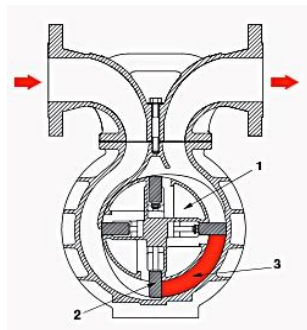
- SATAM SAS type ZC17/250 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: NI.-Resist ASTM 436 Type II
- *End Cover: Steel
- *Wings: Carbon
- Dimensions: DN150 – PN10/16
- Flow range: 25-250 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 120°C
- Max pressure: 10 bar
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right

SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

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- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.



Technical data

Model	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Max. Flowrate	(m ³ /h /LPM/USGPM)	12/200/53	24/400/105	48/800/210	80/1333/360	150/2500/660	250/4166/1100	330/5500/1453
Min. Flowrate	(m ³ /h /LPM/USGPM)	1.2/20/5.3	2.4/40/10.5	4.8/80/21	8/133/36	15/250/66	25/416/110	33/550/145
Application	Multi-product metering							
Connections	Flanges ASA150		Flanges TW		Flanges TW			
	2"	2"	2"	3"	4"	6"	8"	
Materials	Manifold		Manifold		Manifold			
	Aluminum		Steel or Aluminum		Steel			
	Casing		Casing		Casing			
	Aluminum		Ductile iron or Ni resist iron		Ductile iron or Ni resist iron			
	Front and back flanges		Front and back flanges		Front and back flanges			
	Nickel steel		Nickel steel		Nickel steel			
	Rotor		Rotor		Rotor			
	Aluminum		Aluminum		Aluminum			
	Blades		Blades		Blades			
	Graphite		Graphite		Graphite			
	Gaskets		Gaskets		Gaskets			
	Viton (option nitrile)		Viton (option nitrile)		Viton (option nitrile)			
Operating conditions	Pressure		Pressure		Pressure			
	0 to 10 bar / 0 to 150 PSI		0 to 10 bar / 0 to 150 PSI		0 to 10 bar / 0 to 150 PSI			
	Viscosity		Viscosity		Viscosity			
	Maxi : 800 mPa.s		Maxi : 800 mPa.s		Maxi : 800 mPa.s			
	Liquid temperature		Liquid temperature		Liquid temperature			
	-40°C (-40°F) to +60°C (+140°F)		-40°C (-40°F) to +60°C (+140°F)		-40°C (-40°F) to +60°C (+140°F)			
	Ambient temperature		Ambient temperature		Ambient temperature			
	-40°C (-40°F) to +60°C (+140°F)		-40°C (-40°F) to +60°C (+140°F)		-40°C (-40°F) to +60°C (+140°F)			
	Pressure drop		Pressure drop		Pressure drop			
	Max 0,5 bar		Max 0,5 bar		Max 0,5 bar			
Internal construction	Cyclic volume (litres/USG)	0,33/0.08	0,40/0.10	0,80/0.21	2,27/0.6	4,54/1.12	6,82/1.8	9.09/2.4
Metrological performance	Accuracy	<± 0,15% / Option <± 0,1% / For 10 : 1 measuring range						
	Repeatability	<± 0,02%						
Installation	Straight inlet and outlet sections	Not necessary						
Custody transfer approval	EC Evaluation Certificate N° LNE-11052						-	
Dimensions (mm) and weight	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Distance between flanges (A)	180	180	180	356	432	400	400	
Width (B)	290	290	290	356	432	400	400	
Depth (C)	with mechan.register		with mechan.register		with mechan.register		with mechan.register	
	220	220	246	365	492	620	746	
	with pulsar		with pulsar		with pulsar		with pulsar	
	186	186	266	272	399	526	653	
Height (D)	with mechan.register		with mechan.register		with mechan.register		with mechan.register	
	368	406	406	502	521	568	625	
	with pulsar		with pulsar		with pulsar		with pulsar	
	260	260	260	502	521	568	625	
Weight (kg)	18	22	26	75	95	155	200	
Flanges positions	(flanges ASA150)		(flanges ASA150)		(flanges ASA150)		(flanges ASA150)	
	PH1, PH2	PH1, PH2	PH1, PH2, PV1, PV2, PV3, PV4		PH1, PH2, PV1, PV2, PV3, PV4		PH1, PH2	
	(flanges TW)		(flanges TW)		(flanges TW)		(flanges TW)	
	-	-	-	PV5 to PV10	PV5, PV6	-	-	

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.80/ 150



ZC17.80/150

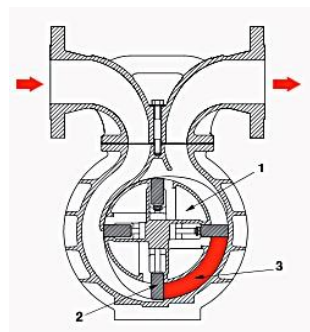
- SATAM SAS type ZC17/150 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: Aluminium, Vanes: Carbon
- Dimensions: ND100 PN10/16
- Flow range: 15-150 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 120°C
- Output signal: Pulse transmitter type Veeder Root
- Manifold: Distance between flanges: 425 mm
- Flow direction: Right to left / Left to Right

SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

- Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.
- High accuracy over a wide range of flow rates.
- Very low repeatability error, less than 0.04%.
- Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.
- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.



Technical data

Model	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Max. Flowrate	(m ³ /h /LPM/USGPM)	12/200/53	24/400/105	48/800/210	80/1333/360	150/2500/660	250/4166/1100	330/5500/1453
Min. Flowrate	(m ³ /h /LPM/USGPM)	1.2/20/5.3	2.4/40/10.5	4.8/80/21	8/133/36	15/250/66	25/416/110	33/550/145
Application	Multi-product metering							
Connections	Flanges ASA150		Flanges TW					
	2"	2"	2"	3"	4"	6"	8"	
				TW1	TW3			
Materials	Manifold		Manifold					
	Aluminum		Steel or Aluminum		Steel			
	Casing		Aluminum					Ductile iron or Ni resist iron
	Front and back flanges							Nickel steel
	Rotor							Aluminum
	Blades							Graphite
	Gaskets							Viton (option nitrile)
Operating conditions	Pressure		0 to 10 bar / 0 to 150 PSI					
	Viscosity		Maxi : 800 mPa.s					
	Liquid temperature		-40°C (-40°F) to +60°C (+140°F)					
	Ambient temperature		-40°C (-40°F) to +60°C (+140°F)					
	Pressure drop		Max 0,5 bar					
Internal construction	Cyclic volume (litres/USG)	0,33/0.08	0,40/0.10	0,80/0.21	2,27/0.6	4,54/1.12	6,82/1.8	9.09/2.4
Metrological performance	Accuracy		<± 0,15% / Option <± 0,1% / For 10 : 1 measuring range					
	Repeatability		<± 0,02%					
Installation	Straight inlet and outlet sections		Not necessary					
Custody transfer approval	EC Evaluation Certificate N° LNE-11052							
	-							
Dimensions (mm) and weight	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Distance between flanges (A)	180	180	180	356	432	400	400	
Width (B)	290	290	290	356	432	400	400	
Depth (C)	with mechan.register		220	220	246	365	492	620
	with pulsar		186	186	266	272	399	526
Height (D)	with mechan.register		368	406	406	502	521	568
	with pulsar		260	260	260	502	521	568
Weight (kg)	18	22	26	75	95	155	200	
Flanges positions	(flanges ASA150)		PH1, PH2	PH1, PH2	PH1, PH2, PV1, PV2, PV3, PV4			PH1, PH2
	(flanges TW)		-	-	-	PV5 to PV10	PV5, PV6	-

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.80/80



ZC17.80/80

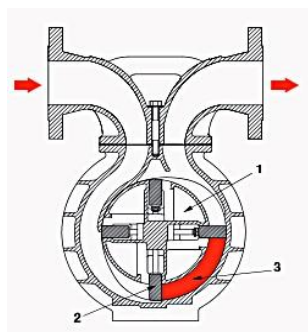
- SATAM SAS type ZC17/80 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: Aluminium , Vanes: Carbon
- Dimensions: ND80 PN10/16
- Flow range: 8-80 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 120°C
- Manifold: Distance between flanges: 356 mm
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right

SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

- Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.
- High accuracy over a wide range of flow rates.
- Very low repeatability error, less than 0.04%.
- Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.
- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.



Technical data

Model	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Max. Flowrate	(m ³ /h /LPM/USGPM)	12/200/53	24/400/105	48/800/210	80/1333/360	150/2500/660	250/4166/1100	330/5500/1453
Min. Flowrate	(m ³ /h /LPM/USGPM)	1.2/20/5.3	2.4/40/10.5	4.8/80/21	8/133/36	15/250/66	25/416/110	33/550/145
Application	Multi-product metering							
Connections	Flanges ASA150	2"	2"	2"	3"	4"	6"	8"
	Flanges TW				TW1	TW3		
Materials	Manifold	Aluminum		Steel or Aluminum		Steel		
	Casing	Aluminum		Ductile iron or Ni resist iron				
	Front and back flanges	Nickel steel						
	Rotor	Aluminum						
	Blades	Graphite						
	Gaskets	Viton (option nitrile)						
Operating conditions	Pressure	0 to 10 bar / 0 to 150 PSI						
	Viscosity	Maxi : 800 mPa.s						
	Liquid temperature	-40°C (-40°F) to +60°C (+140°F)						
	Ambient temperature	-40°C (-40°F) to +60°C (+140°F)						
	Pressure drop	Max 0,5 bar						
Internal construction	Cyclic volume (litres/USG)	0,33/0.08	0,40/0.10	0,80/0.21	2,27/0.6	4,54/1.12	6,82/1.8	9.09/2.4
Metrological performance	Accuracy	<± 0,15% / Option <± 0,1% / For 10 : 1 measuring range						
	Repeatability	<± 0,02%						
Installation	Straight inlet and outlet sections	Not necessary						
Custody transfer approval	EC Evaluation Certificate N° LNE-11052							
Dimensions (mm) and weight	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330	
Distance between flanges (A)	180	180	180	356	432	400	400	
Width (B)	290	290	290	356	432	400	400	
Depth (C)	with mechan.register with pulsér	220 186	220 186	246 266	365 272	492 399	620 526	746 653
Height (D)	with mechan.register with pulsér	368 260	406 260	406 260	502 502	521 521	568 568	625 625
Weight (kg)		18	22	26	75	95	155	200
Flanges positions	(flanges ASA150)	PH1, PH2	PH1, PH2		PH1, PH2, PV1, PV2, PV3, PV4			PH1, PH2
	(flanges TW)	-	-	-	PV5 to PV10	PV5, PV6	-	-

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.24/48



ZC17.24/48

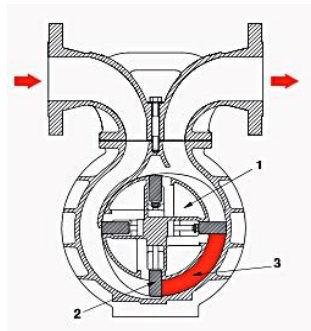
- SATAM SAS type ZC17/48 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: Aluminium, Vanes: Carbon
- Dimensions: DN50
- Flow range: 4,8-48 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 80°C
- Max Pressure: 8 Bar
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right

SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

- Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.
- High accuracy over a wide range of flow rates.
- Very low repeatability error, less than 0.04%.
- Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.
- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.



Technical data

Model	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330
Max. Flowrate	(m ³ /h /LPM/USGPM) 12/200/53	24/400/105	48/800/210	80/1333/360	150/2500/660	250/4166/1100	330/5500/1453
Min. Flowrate	(m ³ /h /LPM/USGPM) 1.2/20/5.3	2.4/40/10.5	4.8/80/21	8/133/36	15/250/66	25/416/110	33/550/145
Application	Multi-product metering						
Connections	Flanges ASA150						
	2"	2"	2"	3"	4"	6"	8"
	Flanges TW			TW1	TW3		
Materials	Manifold						
	Aluminum			Steel or Aluminum		Steel	
	Casing						
	Aluminum	Ductile iron or Ni resist iron					
	Front and back flanges						
	Nickel steel						
	Rotor						
	Aluminum						
	Blades						
	Graphite						
	Gaskets						
	Viton (option nitrile)						
Operating conditions	Pressure						
	0 to 10 bar / 0 to 150 PSI						
	Viscosity						
	Maxi : 800 mPa.s						
	Liquid temperature						
	-40°C (-40°F) to +60°C (+140°F)						
	Ambient temperature						
	-40°C (-40°F) to +60°C (+140°F)						
	Pressure drop						
	Max 0,5 bar						
Internal construction	Cyclic volume (litres/USG)						
	0,33/0.08	0,40/0.10	0,80/0.21	2,27/0.6	4,54/1.12	6,82/1.8	9.09/2.4
Metrological performance	Accuracy						
	<± 0,15% / Option <± 0,1% / For 10 : 1 measuring range						
	Repeatability						
	<± 0,02%						
Installation	Straight inlet and outlet sections						
	Not necessary						
Custody transfer approval	EC Evaluation Certificate N° LNE-11052						
	-						
Dimensions (mm) and weight	ZC17 12	ZC17 24	ZC17 48	ZC17 80	ZC17 150	ZC17 250	ZC17 330
Distance between flanges (A)	180	180	180	356	432	400	400
Width (B)	290	290	290	356	432	400	400
Depth (C)	with mechan.register		220	220	246	365	492
	with pulsar		186	186	266	272	399
Height (D)	with mechan.register		368	406	406	502	521
	with pulsar		260	260	260	502	521
Weight (kg)	18	22	26	75	95	155	200
Flanges positions	(flanges ASA150)						
	PH1, PH2	PH1, PH2		PH1, PH2, PV1, PV2, PV3, PV4			PH1, PH2
	(flanges TW)		-	-	-	PV5 to PV10	PV5, PV6

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.24/24



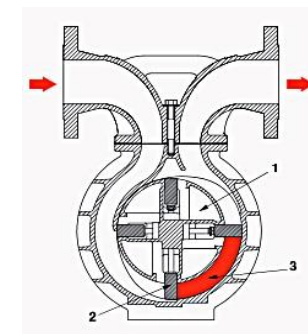
SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

- **Benefits:**
- Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.
- High accuracy over a wide range of flow rates.
- Very low repeatability error, less than 0.04%.
- Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.
- Service and maintenance simplified by the use of many identical and interchangeable parts.
- Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.
- Can be used for viscous products up to 800 Cps / 3850 SSU.
- A wide range of accessories available to build metering units for your specific needs.

ZC17/24:

- SATAM SAS type ZC17/24 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: Aluminium, Vanes: Carbon
- Dimensions: DN50
- Flow range: 2,4-24 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 80°C
- Max Pressure: 8 Bar
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right



For more applications, info, and details,
visit our web site or contact Us.

Cargo Bunkering Flowmeters SATAM SAS ZC17.12/12



SATAM ZC17-SERIES POSITIVE DISPLACEMENT METERS

Industrial metering units for delivery or reception of petroleum products such as gasoline, diesel, domestic fuel oil, kerosene and more.

Benefits:

Special design featuring an in-line manifold and a separate measuring chamber. This protects the measuring chamber from any eventual stress during installation.

High accuracy over a wide range of flow rates.

Very low repeatability error, less than 0.04%.

Low head loss: 0.5 bar max, or 0.3 bar for the ZC17-24 and 48 models.

Service and maintenance simplified by the use of many identical and interchangeable parts.

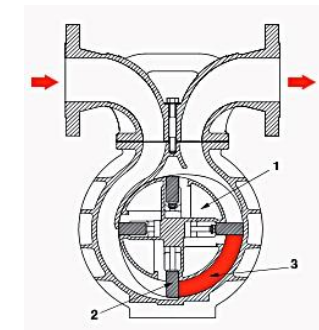
Simplicity of design; the only moving parts being the two sets of blades and the rotor. This keeps maintenance costs to a minimum.

Can be used for viscous products up to 800 Cps / 3850 SSU.

A wide range of accessories available to build metering units for your specific needs.

ZC17/12:

- SATAM SAS type ZC17/12 flowmeter with Veeder Root reset register and Veeder Root pulse transmitter signal to IAS
- Materials: House: Aluminium , Vanes: Carbon
- Dimensions: DN50
- Flow range: 1,2-12 m³/h
- Accuracy: +/- 0,2%
- Repeatability: +/- 0,025%
- Max Temperature: 80°C
- Max Pressure: 8 Bar
- Output signal: Pulse transmitter type Veeder Root
- Flow direction: Right to left / Left to Right



For more applications, info, and details,
visit our web site or contact Us.

Cargo Bunkering Flowmeters Micro Motion, F-Series



Application

Some marine fuel systems require fuel be recirculated throughout the system, meaning all of the fuel sent to the consumer is returned to the flow loop.

Fuel consumption rate can be defined as the amount of fuel used by a consumer (i.e. main engine, generator, boiler, etc.) per unit time. A consumer's FC rate is calculated by comparing the measured rate of fuel that enters the consumer (supply) to the rate of fuel that exits (return), seen below in Figure 1.

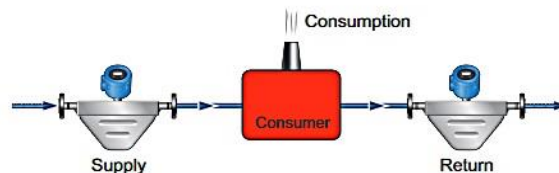


Figure 1. Using Two Coriolis Mass Flow Meters to Measure FC Rate

Micro Motion, F-Series Flow and Density Meters

Micro Motion F-Series meters deliver superb measurement with exceptional flow and density performance as well as outstanding reliability for use in critical process control environments.

High accuracy real world performance

- Best-in-class performance on liquid mass flow, volume flow, and density measurements in a compact design.
- Robust sensor design minimizes down time and process interruption costs.
- Rugged design minimizing process, mounting, and environmental effects.

Best fit-for-application

- Cleanable, self-draining design for critical process control service
- Compact design enables installation flexibility and reduced maintenance costs
- Broad range of I/O offerings including HART, Profibus-DP, FOUNDATION Fieldbus, 4–20 mA, and wireless capabilities.

Optimal flow and density fit for critical process applications

- High performance rugged measurement in a compact drainable design that maximizes process up time.
- Low frequency, high sensitivity fit-and-forget meter provides robust measurements even under demanding process conditions.
- Multiple line sizes provide an ideal platform for batching, distribution, allocation and intra-plant measurement applications.

Industry-leading capabilities that unleash your process potential

- Available with the most extensive offering of transmitter and mounting options for maximum compatibility with your system
- State of the art, ISO/IEC 17025 compliant calibration stands achieving $\pm 0.014\%$ uncertainty drive best in class measurement accuracy
- The most comprehensive communication protocol offering in the industry including Smart Wireless
- True multi-variable technology measures necessary flow and density process variables simultaneously

Micro Motion – 820 Electronics



820 electronics

The 820 electronics are targeted for fuel consumption applications including, but not limited to, main engines, auxiliary engines, boilers, among others. Powerful functions such as security lockout switch, data log, and diagnostics follow stringent regulations and increase the measurement confidence under challenging process conditions.

Transmitter compatibility

Sensor model	Transmitter model or series					
	1500/2500	1700/2700	2200S	2400S	3000 series	FMT
All F-Series models	•	•	•	•	•	•

For more applications, info, and details, visit our web site or contact Us.

Flowmeter Fuel Consumption OVAL FLOWPET-5G

OVAL FLOWPET-5G

FLOWPET-5G is an OVAL flowmeter primarily intended for use in boiler feed water and fuel oil metering applications. Field proven accuracy and long life along with the best price/performance and ease of use makes this industrial meter ideal as a dedicated tool for heat control.



Model
LS4976-530A
LS5076-530A
LS5276-530A
LS5376-530A
LS5576-530A
LS5676-530A

(For water)



(For Oil)



GENERAL SPECIFICATIONS

Item	Description		
LCD display	7-segment, 8-digit with 14mm characters, unit display, low battery alarm, and flow indicator (10-segment)		
Power source	Lithium battery or external power source • Lithium battery: 3.6V dedicated battery pack, Battery life: 8 years (varies with operating conditions), Storage life: 10 years • External power source: 12 to 50VDC±10% (Pulse output: Current capacity 10mA or more, Analog output: Current capacity 30mA or more)		
Display item	Total flow, instantaneous flow rate ([/h] or [/min]), and resettable total flow		
Output signal (for model with a pulse generator)	Open collector, Allowable current: 20mA, Max. voltage applied: 30V		
	Factored pulse	Unfactored pulse	Analog output
	Pulse width: 1ms, 50ms, 100ms, 250ms	Pulse width: 2ms (fixed)	
Temperature range	Fluid temperature: 0 to +120°C, Ambient temperature: -10 to +60°C		
Max. operating pressure	1.18MPa (Flange rating: JIS 10K RF)		
Accuracy	±0.5% of RD		

FLOW RANGE

● Flow Range for Oil Service

Model	Nominal Size mm	Flow Range, L/h			Pressure Loss (kPa) at Max. Flow Rate	
		Kerosene (Above 0.8mPa·s to 2mPa·s)	Gas Oil (heavy oil A) (Above 2mPa·s to 5mPa·s)	Heavy oil (Above 5mPa·s to 200mPa·s)	Kerosene 1.2mPa·s	Heavy oil 19mPa·s
LS4976-5□□ A B	20	10 to 800	7 to 800	5 to 800	32	47
LS5076-5□□ A B	20	150 to 1600	80 to 2000	50 to 2000	14	40
LS5276-5□□ A B	25	300 to 3000	150 to 3800	80 to 3800	13	56
LS5376-5□□ A B	40	600 to 5000	300 to 6400	150 to 6400	13	30
LS5576-5□□ A B	40	1200 to 11000	600 to 14000	400 to 14000	25	54
LS5676-5□□ A B	50	2000 to 20000	1400 to 24000	900 to 24000	27	55

For more applications, info, and details, visit our web site or contact Us.

Cargo Bunkering Flowmeters MAG 5100W – MAG5000

SITRANS F M MAGFLO electromagnetic flowmeters offer reliable, precise and inexpensive flow measurement on all electrically conductive liquids. Typical applications are found in all industries. E.g.:

- Water sector: Potable water, treatment of chemicals, waste water and sludge.
- Food sector: Dairy products, beer, wine, soft-drinks and fruit juices.
- Chemical sector: Detergents, pharmaceuticals, acids and alkalies.
- Other sectors: District heating, paper pulp and mining slurries.

SITRANS F M MAGFLO electromagnetic flowmeters are characterised by simplicity:

- ⇒ Simple to install
- ⇒ Simple to commission
- ⇒ Simple to operate
- ⇒ Simple to maintain

All **SITRANS F M MAGFLO** electromagnetic flowmeters feature a unique **SENSORPROM** memory unit which stores sensor calibration data and signal converter settings for the lifetime of the product.

At commissioning the flowmeter commences measurement without any initial programming.

For more applications, info, and details,
visit our web site or contact Us.



SITRANS F M MAG 5000



Details

Accuracy	0.4 % ±1 mm/s
Input / output	1 current output 1 digital output 1 relay output
Communication	HART
Display	Background illumination with alphanumeric text, 3 x 20 characters
Enclosure	IP67 (NEMA 4x/6) IP20 (NEMA 2)
Power supply	12-24 V a.c./d.c. 115-230 V a.c.
Ambient temperature	From -20 to 50 °C (-4 to 122 °F)
Approvals	MI-001 Danak PTB OIML R49
Ex-approvals	FM/CSA Class 1, Div 2

Cargo Bunkering Flowmeters

Sono 3300 – FUS060

The combination of **SONO 3300 sensor** and **FUS060 transmitter** is ideal for applications within the general industry. Measurements are independent of liquid temperature, density, pressure and conductivity. Transducers cannot be replaced.

Benefits

- Robust remote transmitter FUS060
- Measures all liquids less than 350 cSt, conductive or non-conductive
- No pressure drop
- Reliable and accurate flow measurements
- Long-time stability
- ATEX approval

Application

The main application for SONO 3300/FUS060 ultrasonic flowmeter is measurement of volume. SONO 3300/FUS060 can be used for water and treated waste water, oil and liquefied gases, hot water / cooling systems.

For more applications, info, and details, visit our web site or contact Us.



System overview SITRANS F US SONO 3300 / FUS060

Sensor: SONO 3300 (2-track)
Nominal size: DN 50 ... DN 300 (2" ... 12")

Connection examples: EN1092-1
ANSI B 16.5 150 lbs RF
ANSI B 16.5 300 lbs RF

Pipe material: Cast steel or carbon steel, painted
Media temperature: max. +160 °C (+320 °F)
Transducer: Integrated transducers (no gaskets)

Enclosure rating: IP67 (NEMA 4X/6)
Approval: ATEX

Transmitter: FUS060
Enclosure: P65 (NEMA 4)
Mounting: Separate wall mounting
Accuracy: +/- 0.5% of actual flow
Outputs: 1 current / HART / Profibus PA
1 frequency/pulse
1 relay

Display/counter: Alphanumeric: flow, quantity, error, mass flow, sound velocity, etc.

Language: English, German, French, Spanish

Supply voltage: 115/230 V AC
24 V AC/DC

Approval: ATEX

BADGER METER RCDL DISC METERS



Electronic register type LCR with LCD display, for RCDL series M25, M70, M120 and M170.

BADGER METER RCDL DISC METERS POSITIVE DISPLACEMENT – NUTATING DISC

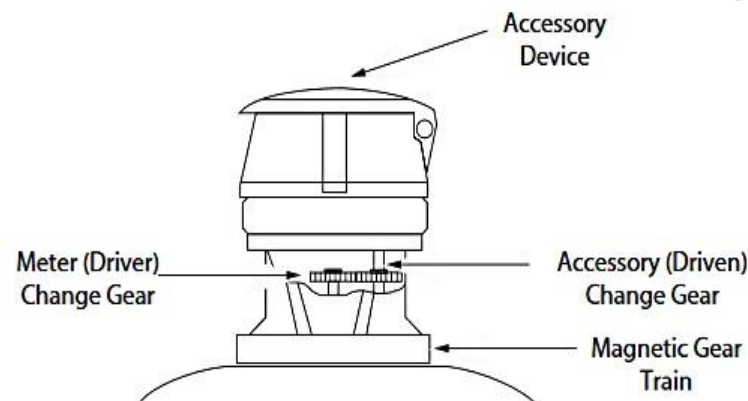
The RCDL Disc Meter combines the accuracy of positive displacement design with the reliability and economy of nutating disc technology. Well suited for measuring the flow of water and other fluids, hot or cold, *this meter can be* combined with most Badger mechanical and electronic accessories for applications from batching to inventory control.

Applications:

Inventory and process control of cold and hot water, oils, fuels, alcohol's, HVAC, condensate return, boiler feed, additive dispensing, and fuel consumption.

- **Features**
- Accuracy: $\pm 1.5\%$ over full range
- Repeatability: $\pm 0.5\%$
- Flow range ranges from 0.5 to 25gpm to 2 to 170gpm
- Rugged bronze or thermoplastic housing
- Maximum Operating Temperature
 - Plastic Housing: 100°F
 - Bronze Housing: 120°F
 - High temperature option: 250°F
- Maximum Operating Pressure: 150 PSI
- Easily maintained without removing from line
- Durable components for minimal maintenance
- Wide range of compatible accessories

LCR Register



Model M25

- Dimension: 1 – 1/2" NPT
- Materials: House in bronze
- Temperature: Maximum 50°degree C.
- Flow Range: 2,28 to 29,1 m3/hour
- Accuracy: +/- 1.5 % RD
- Pressure rating: 10 bar.

Model M170

- Dimension: 2" NPT
- Materials: House in bronze
- Temperature: Maximum 50°degree C.
- Flow range l/min (PPO): 8 – 643
- Accuracy: +/- 1.5 % RD
- Pressure rating: 10 bar.

Model M120

- Dimension: R 1"
- Materials: House in bronze
- Temperature: Maximum 50°degree C.
- Flow Range: 0,180 to 5,0 m3/hour
- Accuracy: +/- 1.5 % RD
- Pressure rating: 10 bar.

Model M70

- Dimension: R 1 1/4"
- Materials: House in bronze
- Temperature: Maximum 50°degree C.
- Flow Range: 0,24 to 15,9 m3/hour
- Accuracy: +/- 1.5 % RD
- Pressure rating: 10 bar.

Meter Model	Meter Size	Housing Material	Dimensions In Inches without Register			Flow Rate In Gallons		
			A Meter Length	B Centerline to Base	Meter Length with Conn.	Cold Liquids 32...120° F	Chemicals & Oils 32...250° F (BZ) 32...100° F (PL)	Approx. Weight
M25	5/8"	BZ or PL	7-1/2"	1-3/8"	12-7/16"	1/2...25 gpm	1...25 gpm	5 lb
M25	3/4"	BZ or PL	7-1/2"	1-3/8"	12-5/8"	1/2... 30 gpm	1...30 gpm	5 lb
M35	3/4"	BZ	9"	1-3/4"	14-1/8"	3/4... 35 gpm	N/A	6 lb
M40	1"	PL	10-3/4"	2-1/4"	16-3/16"	3/4... 50 gpm	N/A	5 lb
M70	1"	BZ	10-3/4"	2-1/4"	16-5/8"	1...70 gpm	5...70 gpm	12 lb
M120	1-1/2"	BZ	12-5/8"	2-5/8"	19-3/4"	2...120 gpm	*See Note	20 lb
M170	2"	BZ	15-1/4"	3-3/8"	22-7/8"	2...170 gpm	N/A	30 lb

BZ = Bronze; PL = Plastic
NPT connection set assemblies available.

N/A = Not available in high temperature/chemical option.
*Note: Available for chemicals or fluids not to exceed 110° F (43° C)

Flow Computer/Rate Totalizer

Contrec Model 103



Features:

- Pulse Output
- High and Low Flow Rate Alarms
- Fully Programmable
- Displays Rate, Total and Accumulated Total
- DC Powered
- Panel, Wall and Pipe Mounting
- Watertight to IP67 (Nema 4X)
- CE Compliant

Field Mounting Rate Totaliser

PROVEN IN THOUSANDS OF FIELD INSTALLATIONS THROUGHOUT THE WORLD.

The 103D is a high accuracy Rate Totaliser designed to operate with digital output flowmeters. Having an IP67 weatherproof case, tactile keyboard and various mounting options, makes it a very versatile unit.

The 103D is powered from a 9-28 Volts DC supply. For installation in hazardous areas a certified intrinsically safe version is available (please see Model 202D).

The DC powered version will operate from an external power source between 9 and 28 Volts and draws no more than 4mA. This enables the 103D to be powered from AC mains adaptors and eliminates the need to run mains voltages in the field.

Lithium batteries provide totaliser and programming retention if the DC power supply is interrupted.

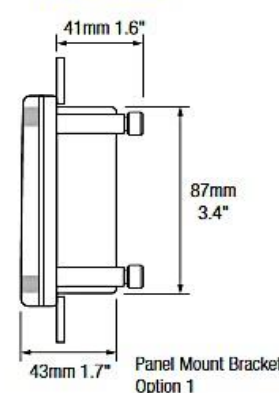
The 103D Rate Totaliser is housed in a rugged, yet attractive, IP67 (Nema 4X) polycarbonate enclosure which is completely watertight. A wall mounting bracket (no gland holes) is supplied as standard, while panel and pipe mounting brackets are available as options.

DIMENSIONS

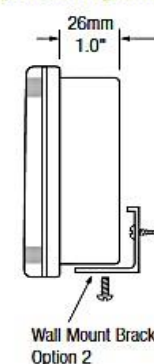
Overall Sizes

151mm (5.9") width
98mm (3.9") height
43mm (1.3") depth

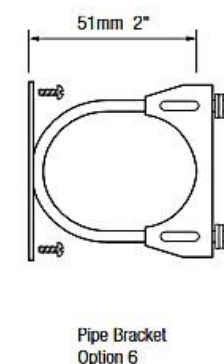
Panel Mount



Wall Mount (standard glands)



Pipe Mount Adapter



TERMINAL DESCRIPTIONS

Terminal Inputs & Outputs	
Number	
1	DC Power 0 Volts
2	DC Power 9-28 Vdc
3	Low Alarm (-)
4	Low Alarm (+)
5	High Alarm (-) or Pulse (-)
6	High Alarm (+) or Pulse (+)
7	Signal Input (-)
8	Signal Input (+)

PRODUCT CODES

Product Code & Mounting Types		
103D	•	Rate Totaliser
Enclosure Mounting	0	Wall Mounting (no gland holes)
	1	Panel Mount Brackets
	2	Wall Mounting (standard glands)
	6	Pipe Mount Adapter

Typical Part Number: 103D .2

Flow Computer/Rate Totalizer

Contrec Model 202



Features:

- ATEX, CSA US/C approved
- Displays Rate, Total and Accumulated Total
- Battery, Loop or DC Powered
- Intrinsically Safe
- Watertight to IP67 (Nema 4X)
- Wall, Pipe, Panel or Flow Meter Mounting
- Fully Programmable
- 4-20mA Output
- High and Low Alarms
- CE Compliant

TERMINAL DESCRIPTIONS

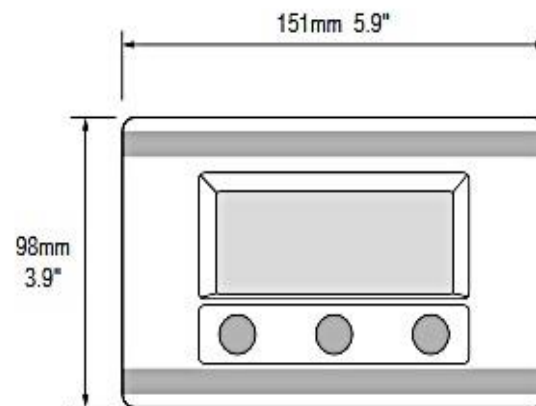
Common to all Models	
Number	Description
7	Signal Input (-)
8	Signal Input (+)

DC Power Versions	
Number	Description
1	DC Power 0 Volts
2	DC Power +9 to 28Vdc

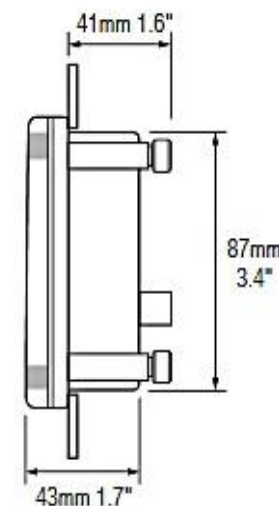
4-20mA Output Versions	
Number	Description
1	4-20mA (-)
2	4-20mA (+)
3	Low Alarm (-)
4	Low Alarm (+)
5	High Alarm (-) or Pulse (-)
6	High Alarm (+) or Pulse (+)

DIMENSIONS

Enclosure Dimensions

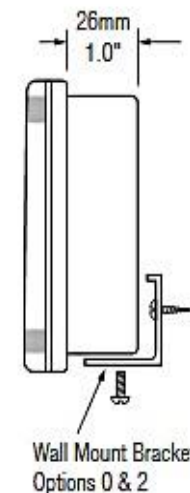


Panel Mount



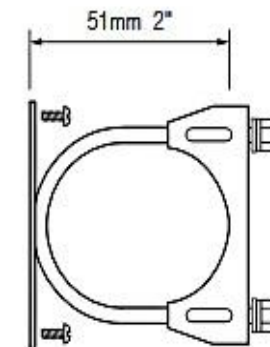
Panel Mount Brackets
Option 1
(cutout size 87mm 3.4" H
x 141mm 5.6" W)

Wall Mount



Wall Mount Bracket
Options 0 & 2

Pipe Mount Adapter



Pipe Bracket
Option 6

For more applications, info, and details,
visit our web site or contact Us.

Flow Computer/Rate Totalizer

Contrec Model 405



Features:

- Large LCD display
- Operates from 12-28V dc or ac mains
- Scaled pulse output
- Accepts 4-20mA and frequency flow inputs.
- Provides 8-24V dc transducer power
- High accuracy
- Self-adhesive engineering unit labels
- Simplified programming
- CE Compliant

Functions:

- Rate
- Total (Resettable)
- Accumulated Total

Options:

- 4-20mA isolated output
- RS232 and RS422/485
- communications interface
- High/low alarm outputs

Terminal Descriptions

Terminals Common to all Models

No.	
1	Calibration
2	Switch Common
11	DC Power Out
12	DC Ground
13	DC Power In

RS232/422 Option (All Models)

No.	
20	RS232 Signal Ground
21	RS232 Data In
22	RS232 Data Out
23	RS422 (-) Data Out
24	RS422 (+) Data Out
25	RS422 (-) Data In
26	RS422 (+) Data In
27	RS232 CTS

Isolated 4-20 mA Output Option

No.	
20	Not Used
21	0 Volts
22	0-10 Volts Out
23	-12 volts
24	I (-)
25	I (+)
26	+15 Volts
27	Not Used

High & Low Relay Alarm Option

No.	
31	High - Normally Open
32	High - Normally Closed
33	High - Common
34	Low - Normally Open
35	Low - Normally Closed
36	Low - Common

Terminals 28, 29 & 30 on the option card are not used.

Terminals specific to each model

No.	405A	405B	405D	405LA	405LR	405Q 405S	No.
3	Rate Switch	Not Used	Rate Switch	Flow Input Ch. 2	Flow Input Ch. 2	Flow Input Ch. 2	3
4	Total Switch	Not Used	Total Switch	Not Used	PT100 (+)	Not Used	4
5	Reset Switch	Not Used	Reset Switch	Temp. (4-20mA)	PT100 Signal (+)	Not Used	5
6	Program Switch	Not Used	Program Switch	Not Used	PT100 Signal (-)	Not Used	6
7	Not Used	Not Used	Not Used	Flow Alarm	Flow Alarm	Flow Alarm	7
8	Flow Common	Flow Common	Flow Common	Flow Common	Flow Common	Flow Common	8
9	Flow Signal (mA)	Flow Signal	Flow Signal	Flow Input Ch. 1	Flow Input Ch. 1	Flow Input Ch. 1	9
10	Pulse Out	Not Used	Pulse Out	Pulse Out	Pulse Out	Pulse Out	10
14	Flow Signal (Volts)	Not Used	Not Used	Flow Input (4-20mA)	PT100 (-)	Not Used	14

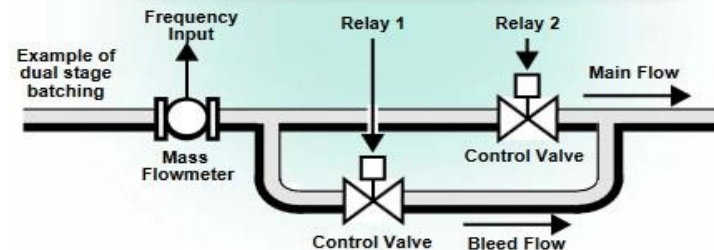
For more applications, info, and details, visit our web site or contact Us.

Flow Computer/Rate Totalizer

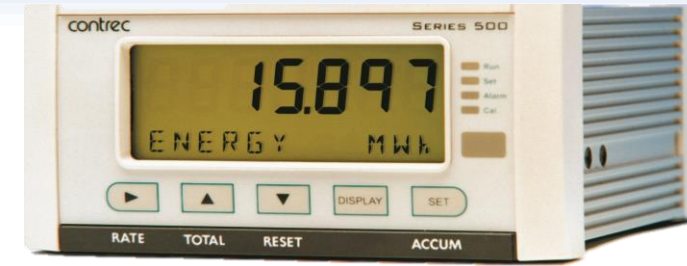
Terminal Designations

Terminal Label	Designation	Comment
1	RS485 +	RS485 (+)
2	RS485 -	RS485 (-)
3	G	Comms ground
4	Tx	RS232 data out
5	Rx	RS232 data in
6	C	CTS (Clear to send)
7	Io	+ 4-20mA output
8	SG	- Signal Ground 0V
9	Li	+ Logic input
10	D OUT 1+	Open collector o/p 1
11	D OUT 2+	Open collector o/p 2
12	li	+ Signal input
13	SG	- Signal Ground 0V
14	Fi	+ Frequency input
15	Vo	+ 8-24 volts DC output
16	G	- DC Ground
17	Vi	+ DC power input
18	SH	E Shield terminal
19	R1	Relay 1
20	RELAYS RC	Relay Common
21	R2	Relay 2
E	AC MAINS E	Mains ground
N	AC MAINS N	Mains neutral
A	AC MAINS A	Mains active
RS232 port	9-pin serial port	

For more applications, info, and details, visit our web site or contact Us.



Contrec Model 505



Features

- Tailored for mass frequency flow input
- Single or Dual stage control
- Quick access to common batch quantities
- No-flow, leakage and overflow error detection
- Remote RUN/STOP/RESET
- Allows for non-linear correction
- Storage of 100 transactions with time and date stamp
- Selection of second language and user tags
- Selectable protocols on serial ports including Modbus RTU and Printer output
- Backlit display with LCD backup

Actuators, Hydraulic Valve Control Systems

Damcos



Damcos actuators

BRC



Double-acting balanced rotary actuator; quarter-turn.

BRCF



Single-acting spring-return actuator; quarter-turn. The spring provides fail-safety.

KC



Linear double-acting actuator. Comes with a direct position indicator and presents no external moving parts during operation.

KF/KFR



Linear single-acting spring-closing actuator. Equipped with a unique emergency system.



BRC – Hydraulic double-acting balanced rotary actuator 90° quarter-turn

Due to its proven reliability, the Damcos Valve Remote Control (VRC) system sets the standard for the marine industry, and we offer both a hydraulic and an electro-hydraulic version. Both are complete one-step solutions that reflect a deep appreciation of marine customer needs and industry standards.

The systems are built on a cost-effective modular design that allows a high degree of customization while delivering performance on all fronts.

Hydraulic VRC

- Compact, yet high-torque output.
- Weight and space saving.
- Prepared for direct built-on modular control function.
- Patented multi-helical spline.
- Easy adaption and mounting on all quarter-turn and linear valves; adjustments without demounting – minimum oil volume and pipe dimension.
- Built-on portable hand pump.
- Hydraulic and electrical position indicators.
- Customized Control Units and System Power Unit.

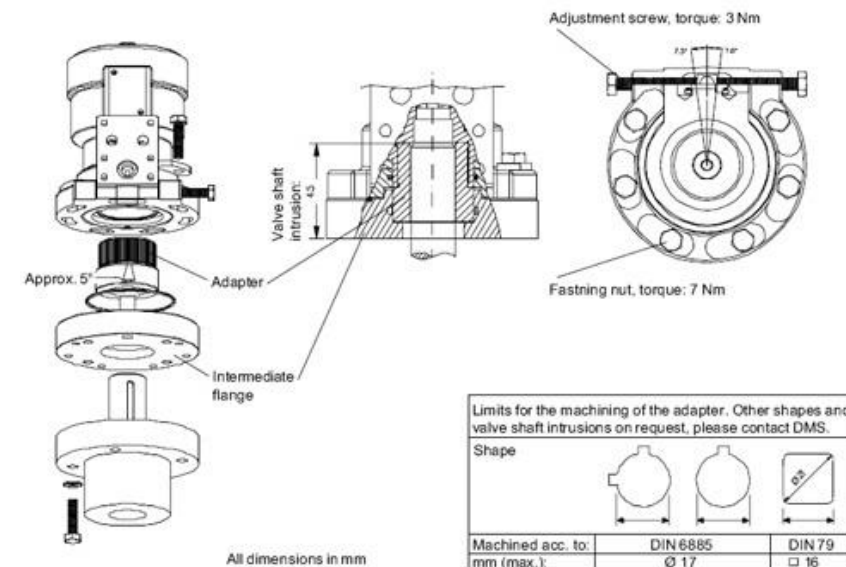
Electro-hydraulic VRC

- Designed to be mounted directly on Damcos valve actuator.
- Power or P-NET bus controlled.
- Automatic functions and supervision.
- No piping needed.
- No System Power Unit or Solenoid Valve Cabinet needed.

Damcos actuators can be fitted in any possible location. The standard control block is designed for mounting on or close to the actuators. The blocks offer various combination possibilities, e.g., flush system, filter, relieve valve, etc.

Damcos actuators series overview

	Torque							
BRC	125 Nm							16000 Nm
	125	250	500	1000	2000	4000	8000	16000
	Break-away opening torque							
BRCF	88 Nm							9600 Nm
	125	250	500	1000	2000	4000	8000	16000
	End closing torque							
BRCF	30 Nm							4800 Nm
	125	250	500	1000	2000	4000	8000	16000
	Closing thrust							
KC	17000 N							92500 N
	65			125				250
	End thrust							
KF/KFR	1500 N							16500 N
	65			125				250



For more applications, info, and details, visit our web site or contact Us.

PD / PSP pneumatic Actuators



PNEUMATIC ACTUATOR, MANUAL HANDWHEEL

- Applicable for both DA (Double-Acting) & SR (Spring-Return) actuators
sizes PDS 50 through PDS 200
- Simple Design & Compact Size
 - Lightweight
 - The free top shaft for accessories such as ITS
 - No levers or bars required for manual operation – Safety Enhanced
 - No sandwich type declutch gear boxes
 - May be used as adjustable travel stop in either direction at any position
 - Actuator may be locked in open or closed position

Model

PD 45/PS 45
PD 50/PS 50
PD 55/PS 55
PD 70/PS 70
PD 75/PS 75
PD 85/PS 85
PD 100/PS 100
PD 125/PS 125
PD 160/PS 160
PD 200/PS 200



For more applications, info, and details,
visit our web site or contact Us.

Pneumatic Actuators DA/SR



Operation and Construction

Haitima actuators are delivered as double acting (DA) as well as single acting (SR) types.

The return springs on SR type are mounted inside the actuator, and the overall size is equal for both types.

The mounting between valve and actuator is acc. to ISO 5211, and it is Namur connection for solenoid valves / limit switch boxes.

Range of applications

The actuator is designed for operating of quarter turn valves i.e ball and butterfly valves.

Technical specification

Temperature area: -20 °C to +80 °C

Max working pressure: 10 bar

Operating supply: Clean air

Installation area: Indoor and outdoor

Materials:

Body: Extruded aluminium

Piston: Aluminium

End pieces: Aluminium

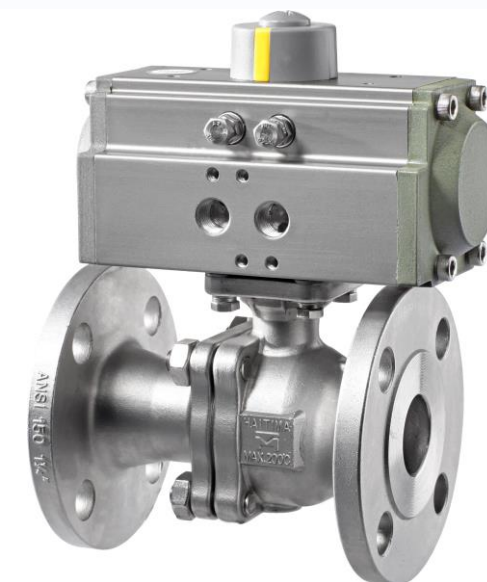
Stem: Nickelplated Carbon Steel

Piston gaskets: Nylon 46

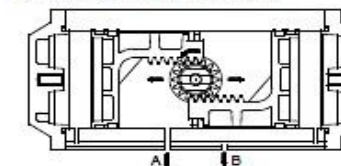
Spring (SR): Special steel



Model:	Moment nm:	Mounting Flange:	Square top:
HTD-052	25	F03/F05	11mm
HTD-063	44	F05/F07	14mm
HTD-083	89	F05/F07	17mm
HTD-092	136	F05/F07	17mm
HTD-105	203	F07/F10	22mm
HTD-125	349	F07/F10	22mm
HTD-140	526	F10/F12	27mm
HTD-160	802	F10/F12	27mm
HTD-190	1292	F14	36mm
HTD-210	1776	F14	36mm
HTD-240	2785	F16	46mm
HTD-270	3916	F16	46mm



The operating principle of double acting actuator
CCW-counter-clockwise



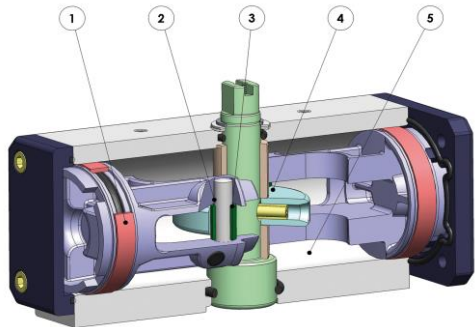
Air to port A forces the pistons outwards, causing the piston to turn counter-clockwise while air is being exhausted from port B.

Stainless steel Actuators DA/SR



Technical features:

- Torque from 15Nm to 480 Nm.
 - Mounting flange according to DIN/ISO 5211 DIN 3337
 - F03 – F05 – F07 – F10
 - VDI/VDE 3845 connection for accessories
 - Rotation angle 90°
 - Torque: directly proportional to the air supply
- Working condition:**
- Temperature from -20° C to +80° C
 - Air supply: 5,6 bar; maximum 8,4 bar
 - Operating media: compressed filtered air, not necessarily lubricated
- In case of lubricated air, either non detergent oil or NBR compatible oil, must be used.



FEATURES AND BENEFITS

1	Energized and self-lubricated strips	Less friction between piston and cylinder It prevents the bonding of the seal to the cylinder even after long periods of inactivity
2	Slots, bushes and pins made by steel with hardness higher than 50 HRC	Higher resistance to the forces inside the actuator
3	Rolling friction between piston and slot	Less friction
4	Scotch yoke with rolling friction (transforming rotary motion into linear motion using piston and shaft without teeth/gears)	Reduced friction between piston and shaft with consequently less wear on the relevant parts Empowered Break Away Torque (BTO & BTC) Smaller volume/size than rack and pinion actuators (with the same torque) therefore less space required for installation Less weight than the rack and pinion (-30% kg / Nm), with consequent savings on the construction sizing of the plant/equipment Lower air consumption compared to the rack and pinion (-40% air cm ³ /Nm for Double Acting and -20% air cm ³ /Nm for Spring Return) therefore less load on the compressor or the possibility of using a smaller compressor's size.
5	Rolled cylinder	Less wear of the energized ties thanks to the low roughness of the surface (0.15 micron Ra)
	100% in- house manufacturing process technology	Maximum control and accuracy in all the stages of the manufacturing process
	ATEX Certificate	Installation is allowed in a potential explosive environment
	SIL 3 Certified	Guarantee of the high level of functional safety.

For more applications, info, and details, visit our web site or contact Us.

Adapters, Mounting Brackets & Square Reducers For Actuators

Mounting Brackets



Mounting Brackets:

Mounting brackets, also called consoles or lanterns are used for the construction of pneumatic or electric actuators on valves .

They are especially needed if the drive can not be mounted directly on the valve .

Our mounting kits they get by default made of galvanized steel or stainless steel. Our special processing of bridges guaranteed flat surfaces according to standard .

In addition, all interfaces are standardized and harmonize with fittings according, to ISO5211 - DIN3337 and actuators according to VDI / VDE 3845th.

Square Reducers



Square Reducer for actuators.

Type:

RHE 11-9mm
RHE 14-11mm
RHE 17-14mm
RHE 22-17mm
RHE 27-22mm
RHE 36-27mm

Adapters



Adapters:

Adapter, also called couplers or carriers, used for the positive connection of the actuator and valve when mounting bridge is used . The adapter transmits the rotational movement of the actuator to the valve .

Adapters



Our adapter blanks are made of stainless steel, which is well suited for machining . They are the driving side finish machined with a square according to ISO 5211th We offer fittings sided machining to suit your needs .

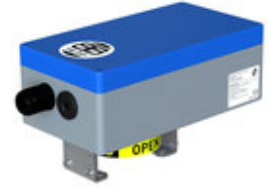
Limit switch boxes standard & EX applications



limit switch boxes 'i-box' Ex ia



limit switch boxes 'i-box'



'limit switch boxes 'big-box'



limit switch boxes 'EUROBOX'



Limit Switch boxes 'Flex box' Atex Ex de, t Aluminium



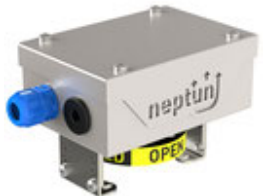
Limit Switch boxes 'Flex box' Ex e ia Aluminium



Limit Switch boxes 'Flex box' Ex ia Aluminium



Limit switch boxes Neptun EX de, t Stainless steel



Limit switch boxes Neptun EX ia Stainless steel



'limit switch boxes 'neptun'



limit switch boxes 'wave'



limit switch boxes wave Ex ia Vestamid



limit switch boxes wave Ex de, t, nA Vestamid

For more applications, info, and details, visit our web site or contact Us.

Limit switch Boxes Standard Applications



Standard Applications

EPPI2M01-3D
EPPI2M01-AM5
EPPI2M01-AM6

Housing EPP

Housing: Polyamide black
Cover: Polycarbonate transparent
Bracket: Plastic with 30% fiber glass
- Visual indicator 2D (Optional: 3D or 3D1)
- Adjustable polyamide mounting bracket (PA6) reinforced with 30% fiber glass or simple assembly on actuators according to VDI/VDE 3845

Options



Housing EPE

Housing: Polyamide black
Cover: Polycarbonate transparent
Bracket: Stainless steel AISI 304

Options



Housing EAE

Housing + cover: Aluminum black
Visual panel: Polycarbonate clear
Shaft: St. st. AISI 303
Bracket: St. st. AISI 304
Protection by enclosure: IP66/IP67/IP68



Housing EAE-40° / EAE-55°

Housing + cover: Aluminum black
Visual panel: none
Shaft: St. steel AISI 303
Bracket: St. steel AISI 304
Protection by enclosure: IP66/IP67/IP68
Special cable gland and sealings for low temperatures



For more applications, info, and details, visit our web site or contact Us.

limit switch boxes for hazardous areas Ex ia



Housing: EVP-IA
Housing: Vestamid black
Cover: Vestamid with visual panel
Bracket: Plastic with 30% fiber glass

Wave box with mechanical Ex d switches, 2-wire N. O. 24V DC

Technical features:

- Producer switch: Bartec
- Switch type: 07-1511-1520
- Function: 2-wire N.O.
- Contacts: Silver
- Voltage: 24V DC
- Maximum current: 4A
- Ambient temperature: -20°C ... +40°C
- ATEX: EX II 2G Ex de IIC T6 Gb
EX II 2D Ex t IIIC T80°C Db
- CE Type examination certificate: IBExU 12 ATEX 1022 X
- Ex zone: Zone 1, Zone 21



Housing: EVE-IA
Housing: Vestamid black
Cover: Vestamid with visual panel
Bracket: Stainless steel AISI 304

Options



Housing: EAE-IA
Housing + cover: Aluminum black
Visual panel: Polycarbonate
Shaft: St. steel AISI 303
Bracket: St. steel AISI 304
Protection by enclosure: IP66/IP67/IP68



Housing: EAE-IA-40° / EAE-IA-55°
Housing + cover: Aluminum black
Visual panel: none
Shaft: Stainless steel
Bracket: St. steel AISI 304
Protection by enclosure: IP66/IP67/IP68
Special cable gland and sealings for low temperatures



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limit switch box for direct mounting Standard Applications & hazardous areas Ex ia

I-Box 2D EX



I-Box 2D
Standard applications



Housing colour



Visual indicators

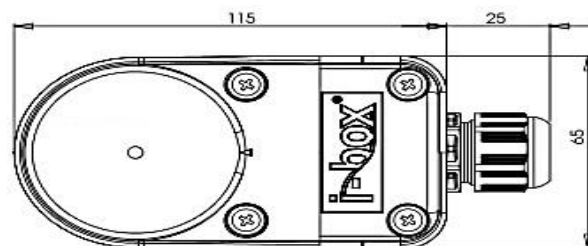
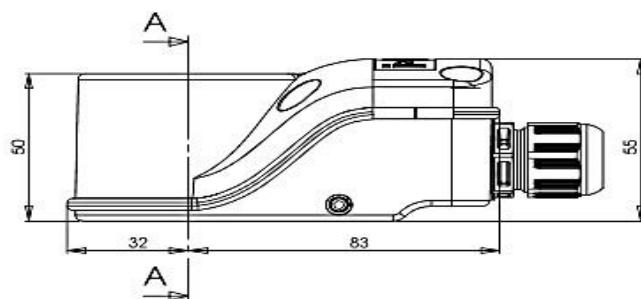


Mounting kit

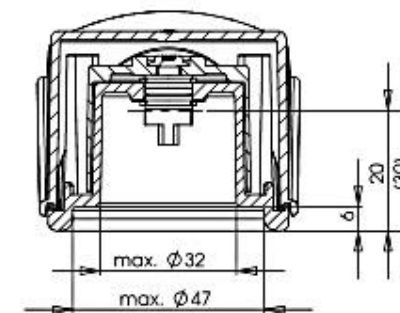


Description

- Very compact limit switch box in conductive vestamide
- Transparent polycarbonate cover with integrated large OPEN-CLOSE indicator (Optional 2D indicator for L- or T-positions)
- Direct mounting without mounting bracket on actuators according to VDI/VDE 3845
- Hole spacing: 80 x 30mm (optional: 130x30mm, 50x25mm - with IMBHV bracket)
- Shaft heights: 20 or 30mm (optional: 40 and 50mm - with IMBHV bracket)
- New, easy and time-saving fastening system
- Enclosure IP66 + IP67 according to DIN EN 60529
- Cable gland M20x1,5 blue (for cable \varnothing 6-12mm)
- Sealings TPE and NBR, Screws AIS I 304, Stainless steel shaft AISI 303
- Application: Explosive atmospheres of zone 1 and 21 (Ex ia)
- 1-2 mechanical switches
- 1-2 proximity sensors in V3 design



SCHNITT A-A



Mounting kit description

- This mounting kit helps you to add a position feedback in form of a limit switch box on your manual valve. You can mount any limit switch box that provides a F05 interface from below.
- The assembly steps are described in detail in the related operating manual
- The mounting kit includes the following parts:
- Upper part (AISI 304) with F05 flange and hole spacing 80x30mm for i-box
 - Bottom part (AISI 304) matching the top flange of the valve
 - Drive screw, stainless steel AISI 303
 - Lock nut (AISI 304) for vertical adjustment

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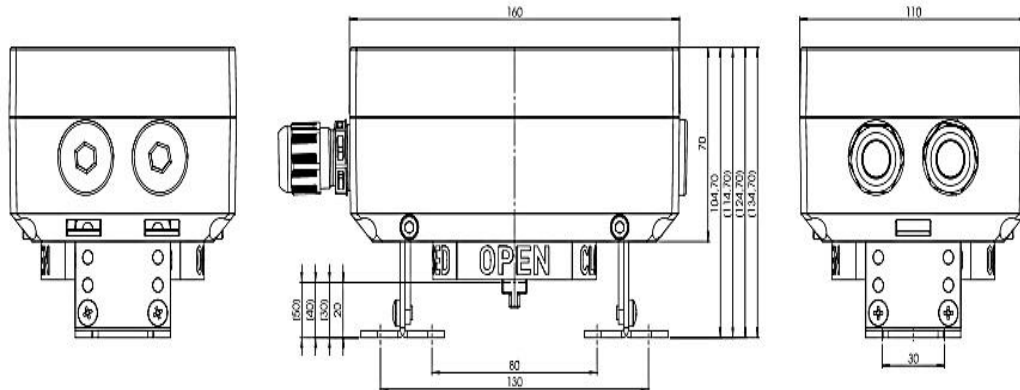
limit switch boxes for hazardous areas Ex ia



Housing EFE-IA
 Housing: Aluminium
 OPEN-CLOSED indicator below the box
 Bracket: Stainless steel (AISI 304)
 IP66/IP67
 T6/T80°C: -25°C...+70°C
 T5/T95°C: -25°C...+80°C
 T4/T135°C: -25°C...+100°C

Flex box with mechanical Ex d switches, SPDT, NO./NC.

Technical features:
Producer switch: Bartec
Switch type: 07-1511-1030
Function: N.O. / N.C.
Voltage, Current consumption:
 DC: 24V, 150mA
 AC: 250V, 4A
SIL Level: SIL 1-3 (IEC 61508:2010)
Ambient temperature:
 T6/T80°C: -20°C ... +40°C
 T5/T95°C: -20°C ... +60°C
ATEX/IECEX:
 EX II 2G Ex de IIC T5-T6 Gb
 EX II 2D Ex t IIIC T80°C-T95°C Db
CE Type examination certificate:
 EPS 16 ATEX 1012 X
 IECEX EPS 16.0006 X
Ex zone: Zone 1, Zone 21



Housing EFE-EIA

Housing: Aluminium
 OPEN-CLOSED indicator below the box
 Bracket: Stainless steel (AISI 304)
 IP66/IP67
 T6/T80°C: -25°C...+40°C
 T5/T95°C: -25°C...+60°C
 T4/T135°C: -25°C...+75°C

Options



Housing EFE-ED

Housing: Aluminium
 OPEN-CLOSED indicator below the box
 Bracket: Stainless steel (AISI 304)
 IP66/IP67
 T6/T80°C: -25°C...+40°C
 T5/T95°C: -25°C...+60°C
 T4/T135°C: -25°C...+75°C



For more applications, info, and details,
visit our web site or contact Us.

Limit switch Boxes ATEX Applications



Housing: NEK
Housing + cover: Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP67
-25°C...+100°C



Housing: NEK-40°C
NEK -55°C
Housing + cover: Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP66/IP67
-40°C...+100°C
-55°C...+100°C



Housing: NEK- IA
Housing + cover:
Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP65
T6/T80°C: -25°C...+70°C
T5/T95°C: -25°C...+80°C
T4/T135°C: -25°C...+100°C



Housing: NEK-IA-40°C - NEK -IA-55°C
Housing + cover:
Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP65/66
T6/T80°C: (-55°C) -40°C...+70°C
T5/T95°C: (-55°C) -40°C...+80°C
T4/T135°C: (-55°C) -40°C...+100°C



Housing: NEK- ED
Housing + cover:
Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP65
T6/T80°C: -25°C...+40°C
T5/T95°C: -25°C...+60°C
T4/T135°C: -25°C...+75°C



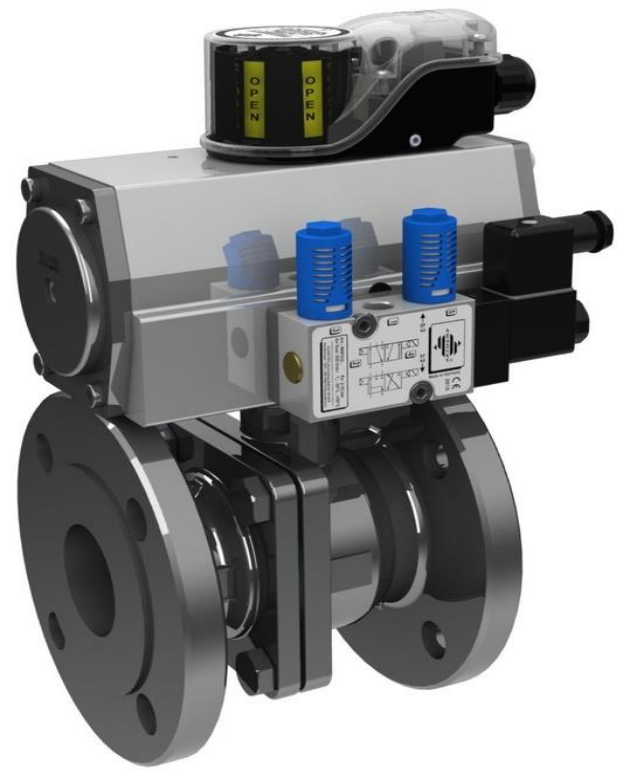
Housing: NEK-ED-40°C - NEK -ED-55°C
Housing + cover:
Stainless steel (AISI 316 Ti)
OPEN-CLOSED indicator below the box
Bracket: Stainless steel (AISI 316 Ti)
IP65/66
T6/T80°C: (-55)-40°C...+40°C
T5/T95°C: (-55)-40°C...+60°C
T4/T135°C: (-55)-40°C...+75°C

Options



For more applications, info, and details,
visit our web site or contact Us.

Solenoid Valves, Monostable/ Bistable Standard & EX Applications



MNI52024DC



PNF532



MNF32024DC-40°C



MNF532024DC



MNF52024DC-316L



MNF532024DC-DM



MNF52024DC-IA-40°C



MNI52024DC-NA



MNF532024DC-NA



VB52024DC-4



MNI-M



MNF532-M



MNI52024DC-DM

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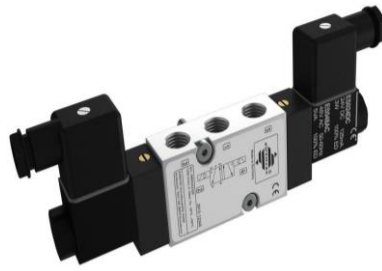
Solenoid Valves Standard Applications

Coils



MNF52024DC

Version: Monostable
Function: 5/2- and 3/2-way, comb
Ports: G1/4" (G1/2" on request)
Voltages: 24V DC, 230V AC
 (more voltages on request)
Material: Al, PA6, Ms, NBR
Temperature: 10°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)



MNI52024DC

Version: Bistable
Function: 5/2- or 5/3-way
Ports: G1/4" (G1/2" on request)
Voltages: 24V DC, 230V AC
 (more voltages on request)
Material: Al, PA6, Ms, NBR
Temperature: -10°C...+50°C



VB52024DC-4

Version: Monostable
Function: 5/2- way
Ports: G1/4"
Voltages: 24V DC, 230V AC
 (more voltages on request)
Material: Al, 6 NBR,
Temperature -20°C...+70°C



PNF532

Version: Monostable
Function: 5/2- and 3/2-way comb.
Ports: G1/4"
Material: Al, Ms, PA6 NBR,
Temperature: -10°C...+70°C



Standard coil without plug connector

Voltages:
 24VDC, 230V AC
 (more voltages on request)
Power:
 DC=3W / AC=5VA

Silencers



Flow reducers



Connectors



Standard connector industry form B for coil ES...
 with cable gland M16x1,5 for cable
 Ø 5-6mm



LED connector industry form B with
 varistor against voltage peaks



M12 connector industry form B
 for quick connection

Voltages:
 DC: 24V
 AC: 115V, 230V

For more applications, info, and details,
 visit our web site or contact Us.

solenoid valves for hazardous areas Ex



MNF532024DC-NA

Version: Monostable
Function: 5/2- and 3/2-way, comb.
Ports: G1/4" (G1/2" on request)
ATEX/Zone Zone 2+22,
II 3G Ex nA IIC T5 Gc
II 3D Ex tc IIIC T95°C Dc IP65

Voltages: 24V DC, 230V AC
(more voltages on request)
Material: Al, PA6, Ms, NBR
Temperature: -10°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)

Material: Al, PA6, Ms, NBR
Temperature: -10°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)



MNI52024DC-NA

Version: Bistable
Function: 5/2- or 5/3-way
Ports: G1/4"
ATEX/Zone Zone 2+22,
II 3G Ex nA IIC T5 Gc
II 3D Ex tc IIIC T95°C Dc IP65

Voltages: 24V DC, 230V AC
(more voltages on request)
Material: Al, PA6, Ms, NBR
Temperature: -10°C...+50°C



MNF52024DC-IA-40°C

Version: Monostable
Function: 5/2- or 3/2-way
Ports: G1/4"
ATEX/Zone Zone 1+21,
II 2G Ex ia IIC/IIB T6 Ga
II 2D Ex t IIIC T80°C Db IP65

Voltages: 24V DC
Material: Al, PA6, Ms, NBR
Temperature: -40°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)



MNF52024DC-316L-IA

Version: Monostable
Function: 5/2- or 3/2-way
Ports: G1/4"
ATEX/Zone Zone 1+21,
II 2G Ex ia IIC/IIB T6 Ga
II 2D Ex t IIIC T80°C Db IP65

Voltages: 24V DC (max. 28V)
Material: Stainless steel, PA6, NBR
Temperature: -10°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)



MNF532024DC-DM

Version: Monostable
Function: 5/2- or 3/2-way, comb
Ports: G1/4"
ATEX/Zone Zone 1+21,
II 2G Ex dm mb IIC T5 Gb X
II 2D Ex tb IIIC T95°C IP66 Db X

Voltages: 24V DC, 230V AC
Material: Al, PA6, NBR, Ms
Temperature: -10°C...+50°C
SIL: SIL 1-3 (IEC 61508:2010)



MNI52024DC-DM

Version: Bistable
Function: 5/2- or 5/3-way
Ports: G1/4"
ATEX/Zone Zone 1+21,
II 2G Ex dm mb IIC T5 Gb X
II 2D Ex tb IIIC T95°C IP66 Db X

Voltages: 24V DC, 230V AC
Material: Al, PA6, NBR, Ms
Temperature: -10°C...+50°C

Silencers



Flow reducers



For more applications, info, and details,
visit our web site or contact Us.

About us

Since 1994 we have been supplying the offshore, land and shipping industries with what they need of process instrumentation, remote valve control, tank gauging equipment and systems. We know how important it is for our customers to get the right equipment for the job. That is why AM Instrumentering AS are providing quality products and service at competitive prices with complete customer satisfaction as our top priority.



CUSTOMER SERVICE

Main Job Tasks and Responsibilities.

Dealing directly with customers either by telephone, electronically or face to face. Obtain and evaluate all relevant information to handle product and service requests.

With years of experience and expertise in the field regarding Offshore, AM Instrumentering team provide technical support to all costumers requests in order to help and solve any issues that have occurred.

We also undertake, sensor installation, calibration and simulation, in generally sounding system start up.

Actuator installation directly on board, flow meters support and start up.

For more information's considering all above [contact us](#).



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