






FOCUS-1 Specification Sheet : 4" inch ANSI 150# and ANSI 300#

PROCESS MEDIA		Single phase liquid with <5% solid content, <2% gas content and max. Viscosity up to 100 cSt																				
APPLICATIONS		Direct Flow control applications replacing either just a valve or combination of valve with other equipment (e.g. flowmeter)																				
DESCRIPTIONS		CONTROL ELEMENT		MEASUREMENT SENSOR ELEMENTS																		
ELEMENT NAME		Valve																				
TECHNOLOGY		Valve position % or Flow control		<table border="1"> <thead> <tr> <th>Flow</th> <th>Pressure</th> <th>Temperature</th> </tr> </thead> <tbody> <tr> <td>Double acoustic reflection path</td> <td>Thin film technology</td> <td>Thin film technology</td> </tr> <tr> <td>Flow velocity</td> <td>Inlet pressure</td> <td rowspan="2">Temperature</td> </tr> <tr> <td rowspan="2">Volumetric flowrate</td> <td>Outlet pressure</td> </tr> <tr> <td>Pressure drop</td> <td></td> </tr> </tbody> </table>			Flow	Pressure	Temperature	Double acoustic reflection path	Thin film technology	Thin film technology	Flow velocity	Inlet pressure	Temperature	Volumetric flowrate	Outlet pressure	Pressure drop				
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MEASURED & CALCULATED PARAMETERS		% Opening at real time dynamic flowrate conditions		 <p>Total Weight approx. 140 kg</p>																		
		Cavitation, Flashing and Estimated Sound Pressure level																				
		Cv																				
TECHNICAL PARAMETERS		Overall Control Accuracy	With an inbuilt PID controller, control accuracy is typically $\pm 1\%$	Measurement accuracy	Uncertainty, typically better than 0,5% of setpoint value and stability better than + 0,2%.																	
		Max flow velocity	Typically upto 22.96 ft/s	Pressure measurement range	N/A	0 Psig - 580 Psig	N/A															
		Rangeability	30:1	Burst pressure	N/A	1740.45 Psig	N/A															
		Face to Face	As per ANSI / ISA-75.08.01	Temperature measurement range	N/A	N/A	-40 °F to 356 °F															
MATERIAL OF CONSTRUCTION		Body / Bonnet	ASTM A351 Gr.CF8M	Body	316L	N/A																
		Stem	316L	Process Connection	316L	316L																
		Plug	316L (stellited version optional)	Housing	N/A	316L																
		Seat	316L (stellited version optional)	Sensor Diaphragm	N/A	17-4PH																
		Packing Gasket	PTFE/PTFE with Carbon PTFE/graphite with metal core	O-Ring	N/A	Silicone (-40 °F to 356 °F)																
DEVICE PARAMETERS		Seat leakage	ANSI Class IV & ANSI Class V	DEVICE PARAMETERS <table border="1"> <tbody> <tr> <td>Electronics Version</td> <td>Version 4.0</td> </tr> <tr> <td>Electrical connection</td> <td>Spring clamp connections according to VDE 0100</td> </tr> <tr> <td>Air Filter Regulator</td> <td>Manufacturer Standard</td> </tr> <tr> <td>Pneumatic conn.</td> <td>1/2" NPT</td> </tr> <tr> <td>Air supply min/max</td> <td>43.6 Psig / 87Psig</td> </tr> <tr> <td>Power supply</td> <td>85V AC up to 250V AC 18V DC up to 32V DC</td> </tr> <tr> <td>Power Consumption</td> <td>typically 15 watt</td> </tr> <tr> <td>Cable entry</td> <td>M20X1.5</td> </tr> </tbody> </table>			Electronics Version	Version 4.0	Electrical connection	Spring clamp connections according to VDE 0100	Air Filter Regulator	Manufacturer Standard	Pneumatic conn.	1/2" NPT	Air supply min/max	43.6 Psig / 87Psig	Power supply	85V AC up to 250V AC 18V DC up to 32V DC	Power Consumption	typically 15 watt	Cable entry	M20X1.5
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Cable entry	M20X1.5																					
Size, Seat bore, and Kv	NPS 4 with SB 63 mm & Cv 70 NPS 4 with SB 80 mm & Cv 120 NPS 4 with SB 100 mm & Cv 190																					
Pressure class	Class 150 Class 300																					
End connection	Flanged connections according to ASME 16.5 <Ra 3,26,3µm>																					
Trim type	Standard V - Port plug with Metal seal																					
Flow characteristics	Linear / Eq % as standard Linear when flow used as setpoint																					



FOCUS-1 DEVICE PARAMETERS			PRE-REQUISITES FOR INSTALLATION	
Design pressure (min. / max.)	Class 150 0 Psig - 217 Psig Class 300 0 Psig - 522 Psig		Inlet run	Min. 4 DN (straight inlet)
Design temperature (min. / max.)	-40 °F to 356 °F		Outlet run	0 DN (straight outlet)
Ambient conditions (min. / max.)	-4 °F to 131 °F		Face to Face Dimension (ANSI / ISA 75.08.01)	NPS 4 - Class 150 13.85 inch NPS 4 - Class 300 14.48 inch
DEVICE MANAGEMENT & VALUE-ADDED FEATURES		APPROVALS & CERTIFICATES		
General	All inputs and outputs are galvanically separated from main power supply and each other. Through a browser user interface all operating settings can be reviewed and adjusted	NAMUR	NE21, 43, 53, 80,107	
Input & Output Signal	Input Signal for Set Point : 4-20 mA Output Signal to DCS/PLC : 4-20 mA (active & passive), HART7® Protocol			
Digital Twin Technology	Sensor redundancy owing to the diagnostic algorithms on-board that use correlation of dynamic process data to generate model values for key process parameters such as flow, pressure, etc.	Low Voltage Directive	Over-voltage category	II
Diagnostics	Product & Process Monitoring & Alarming		Material group (CTI:175..250)	III
			Pollution deg.	3
			Humidity	30% -100%
Altitude	6,561.68 ft			
Remote operations	Wi-Fi and wired connection with access control & dual password protection to the internal web server for full functionality & configuration	Hazardous Area Classification	For use in non- hazardous areas	
Remote access & control	Hardware security authorization via single button on device further granting remote access for configuration & verification			
Single button control & Bluetooth	Single button for easy and secure installation & maintenance access via smartphone, tablet or laptop	Ingress Protection (IP) as per IEC 529/EN60529	IP66	
WiFi / Ethernet	Either Wi-Fi or 4 wire ethernet can be used for remote access and configuration			
Communication protocols	4-20mA & HART7® Protocol	Shock Resistance	IEC 65-2-2730g for 18ms	
Health status communication	Communication via LED Ring in colors as per NAMUR NE107 & NE43 standards and via HART			
Languages	English, German, French	Vibration Resistance	IEC 68-2-6; 0,5g 1800Hz up to 1800 Hz IEC 60721; 15g	
On board data storage	Timestamped log of process & diagnostic data with 32 GB capacity sufficient for 18 months of data storage			
Webserver	Integrated for installation, service, and monitoring	IT Security	According to IEC 62443	