






# FOCUS-1 Specification Sheet : DN 100 – PN16 / PN40

<b>PROCESS MEDIA</b>		Single phase liquid with <5% solid content, <2% gas content and max. Viscosity up to 100 cSt																	
<b>APPLICATIONS</b>		Direct Flow control applications replacing either just a valve or combination of valve with other equipment (e.g. flowmeter)																	
<b>DESCRIPTIONS</b>		<b>CONTROL ELEMENT</b>		<b>MEASUREMENT SENSOR ELEMENTS</b>															
<b>ELEMENT NAME</b>		<b>Valve</b>																	
<b>TECHNOLOGY</b>		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	
Flow	Pressure	Temperature																	
Double acoustic reflection path	Thin film technology	Thin film technology																	
Flow velocity	Inlet pressure	Temperature																	
Volumetric flowrate	Outlet pressure																		
	Pressure drop																		
<b>MEASURED &amp; CALCULATED PARAMETERS</b>		% Opening at real time dynamic flowrate conditions		 <p><b>Total Weight</b> approx. 140kg</p>															
		Cavitation, Flashing and Estimated Sound Pressure level																	
		Kv																	
<b>TECHNICAL PARAMETERS</b>		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, up to 7m/s	Pressure measurement range	N/A	0 to 40 bar	N/A												
		Rangeability	30:1	Burst pressure	N/A	120 bar	N/A												
		Face to Face	As per EN 558-1	Temperature measurement range	N/A	N/A	-40 to 180 °C												
<b>MATERIAL OF CONSTRUCTION</b>		Body / Bonnet	1.4408	Body	1.4404	N/A													
		Stem	1.4404	Process Connection	1.4404	1.4404													
		Plug	1.4409 (stellited version optional)	Housing	N/A	1.4404													
		Seat	1.4404 (stellited version optional)	Sensor Diaphragm	N/A	1.4548													
		Packing Gasket	PTFE/PTFE with Carbon PTFE/graphite with metal core	O-Ring	N/A	Silicone ( -40 up to 180 °C )													
<b>DEVICE PARAMETERS</b>		Seat leakage	ANSI Class IV & ANSI Class V	<b>DEVICE PARAMETERS</b>			Electronics Version	Version 4.0											
		Size, Seat bore, and Kv	DN 100 with SB 63 mm & Kv 63 DN 100 with SB 80 mm & Kv 100 DN 100 with SB 100 mm & Kv 160				Electrical connection	Spring clamp connections according to VDE 0100											
		Pressure class	PN 16 PN 40				Air Filter Regulator	Manufacturer Standard											
		End connection	Flanged connections according B1 EN 1092-1 <Ra 3,2 ....12,5µm>				Pneumatic conn.	1/2" NPT											
		Trim type	Standard V - Port plug with Metal seal				Air supply min/max	3 Barg/6 Barg											
		Flow characteristics	Linear / Eq % as standard Linear when flow used as setpoint				Power supply	85V AC up to 250V AC 18V DC up to 32V DC											
							Power Consumption	typically 15 watt											
		Cable entry	M20X1.5																



FOCUS-1 DEVICE PARAMETERS			PRE-REQUISITES FOR INSTALLATION	
Design pressure (min. / max.)	<b>PN16</b> 0 barg - 15 barg  <b>PN40</b> 0 barg - 36 barg		Inlet run	Min. 4 DN (straight inlet)
Design temperature (min. / max.)	-40 °C up to 180 °C		Outlet run	0 DN (straight outlet)
Ambient conditions (min. / max.)	-20 °C up to 55 °C		Face to Face Dimension (As per EN 558-1)	DN 100 PN16 : 350 mm DN 100 PN40 : 350 mm
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	<b>Input Signal for Set Point</b> : 4-20 mA <b>Output Signal to DCS/PLC</b> : 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	2,000 m			
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	