THERMAL PROCESSING

MDV systems for surface-mix burners

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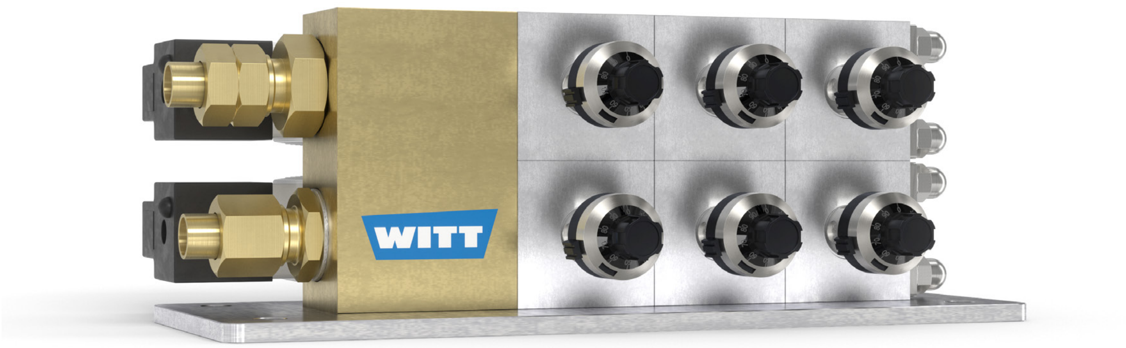

MDV gas metering systems for the flexible production and flow control of fuel gases, oxygen or air; especially designed for surface-mix burners.

Benefits

- the flexible arrangement of metering valves (2 or 3 gases) provides the flexibility to meet the gas supply requirements of various types of processing machinery
- subsequent changes of machine parameters, e.g. capacities or number of burners, can be easily accomplished because of the modular design
- all parameters can be adjusted with the burners in sight due to the installation of the metering valves close to the burners
- the perfect repeatability of the parameter setting senables the initial setting of the burners before actually starting the process. This results in reduced set-up times as well as in minimised cost of rejects during start-up.
- low assembly cost due to very convenient assembly of mixing and metering valves without any additional pipe work, brackets or housings
- integrated WITT safety technology to prevent dange-rous flashbacks or back burns into the gas supply system protecting life and equipment

Please indicate the individual gases as well as number and capacities of the required burners when ordering!

Type	MDV Systems for Surface-Mix Burners
Gases	fuel gases such as natural gas, methane, propane, hydrogen, acetylene with oxygen and/or air
Mixing range	dependent on the gases
Gas inlet pressures	0.3 to max. 10 bar
Gas outlet pressures	dependent on the back pressure of the burners
Flow capacity (air)	approx. 10 Nl/min to 1000 Nl/min (other quantities on request)
Repeatability	better ±1% abs.
Gas connections	dependent on valve block size
Material	aluminium, brass, stainless steel
Weight	dependent on number of valves
Dimensions (HxWxD)	dependent on number of valves
Shut-off valves	solenoid valves, 24 V DC or 230 V AC
Approvals	Company certified according to ISO 9001 CE-marked according to: - EMC 2014/30/EU - Low Voltage Directive 2014/35/EU

MD4 - G01/2H subject to change

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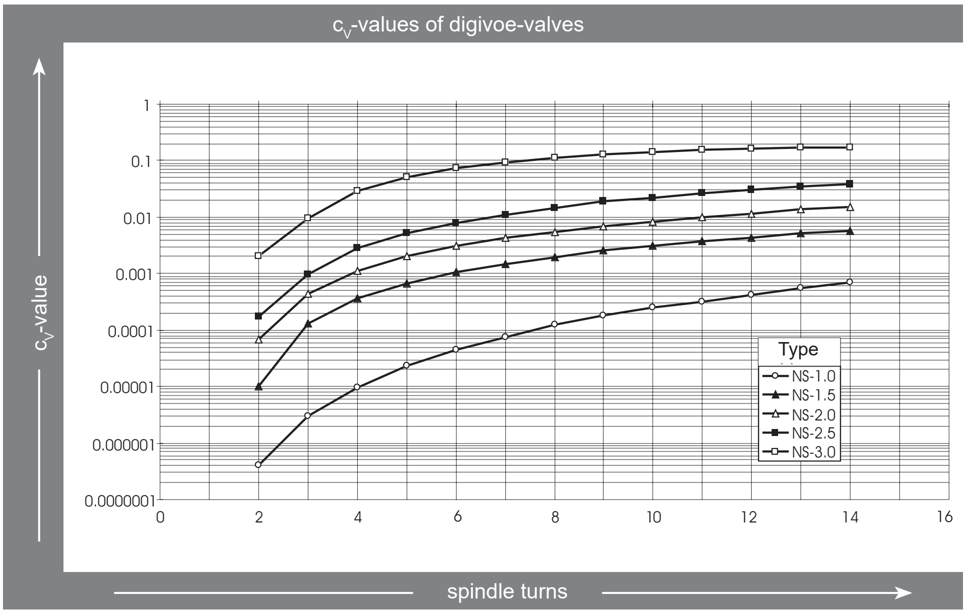
FLOW CALCULATION OF DIGIVOE-VALVES

Characteristic curve

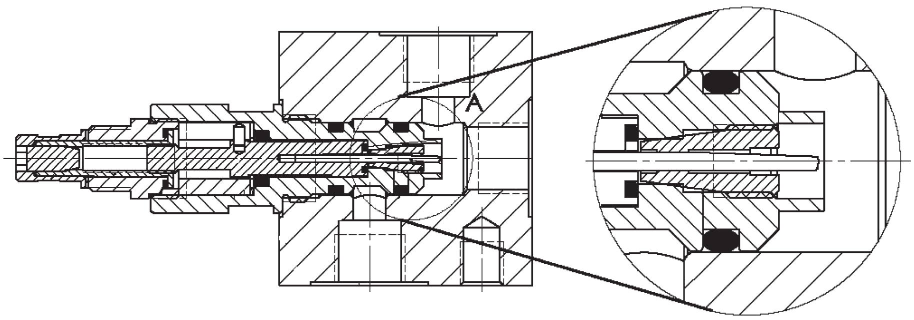


Formulas

Pressure drop	Gas flow in Nm³/h
$\Delta P < \frac{Pv}{2}$	$Qn = \frac{Cv \cdot 514}{\sqrt{\frac{\rho n \cdot \vartheta n}{\Delta P \cdot Ph}}}$
$\Delta P > \frac{Pv}{2}$	$Qn = \frac{Cv \cdot 257 \cdot Pv}{\sqrt{\rho n \cdot \vartheta n}}$

Symbol	Description	Unit
Qn	Gas flow	Nm³/h
Kv	Flow coefficient from curve	Nm³/h
ΔP	Pressure drop = Pv-Ph	bar
Pv	Inlet pressure	bar absolute
Ph	Outlet pressure	bar absolute
ρn	Density at norm conditions: 0 °Celsius, 1013 hPa	Kg/Nm³
ϑn	Gas temperature upstream the valve	Kelvin

Sectional drawing



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