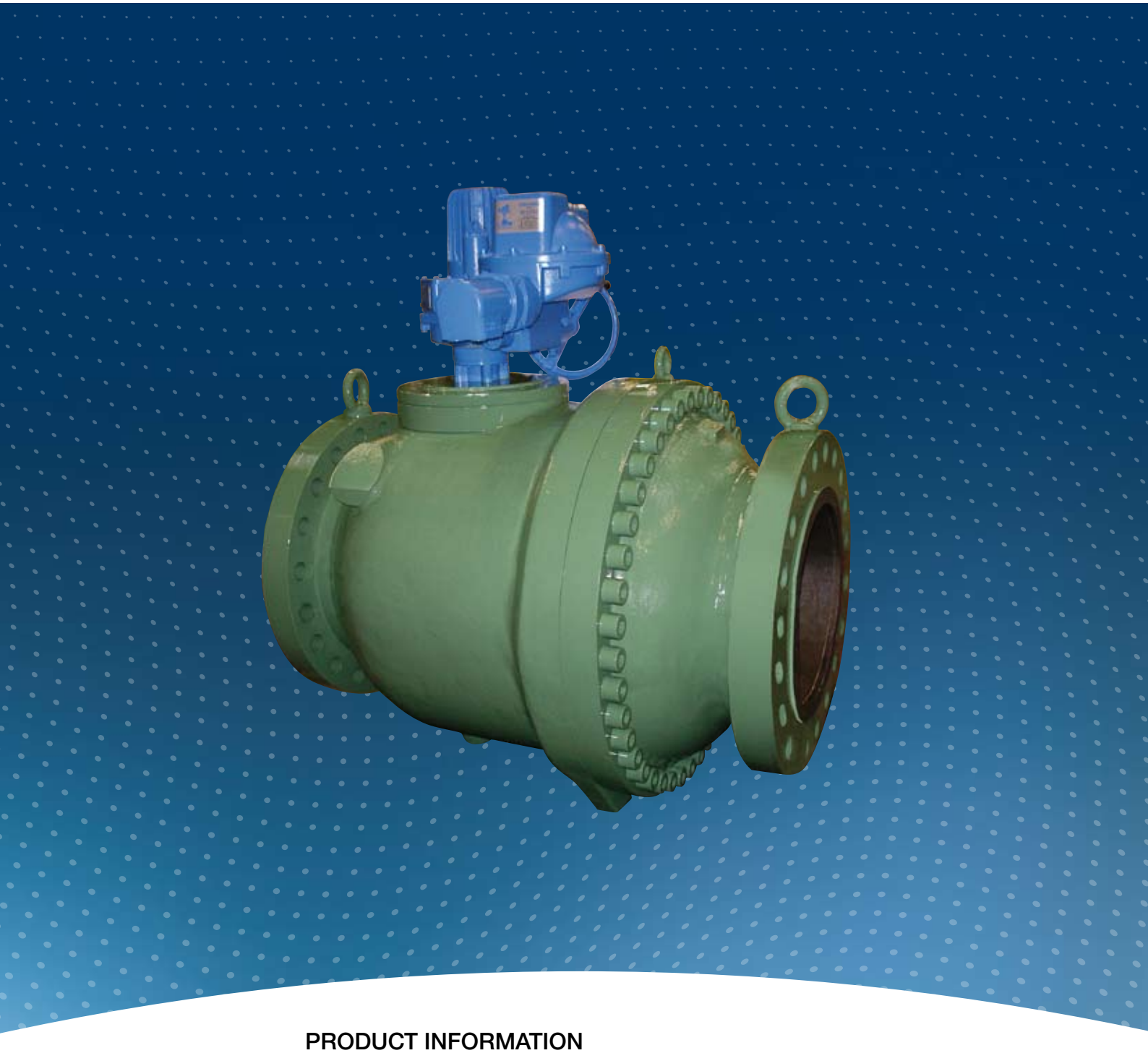
Volume Control Valve RMG 530-E-WG



PRODUCT INFORMATION

Serving the Gas Industry Worldwide

RMG
by Honeywell

Applications

- For feeding gas into and/or withdrawing gas from gas storage facilities and important gas mains
- For all tasks in connection with optimising gas supply
- For all tasks of flow-rate or gas pressure control with slow valve adjustment
- Suitable for gases according to DVGW Worksheet G 260 and neutral, non-aggressive gases, for other gases on enquiry
- Bi-directional operation

Characteristics

- Main valve with electric actuator
- In-line flow guarantees very high flow rates
- Valve sleeve with full compensation of static inlet and outlet pressures
- Noise attenuation devices as a standard feature
- Linear performance curve with equal percentages – or customized according to operating conditions
- In case of a current failure → valve stays put in last position (function: fail position (FP))
- Electric actuator for three-step control with PI behaviour in combination with electric pilots
- Frequency-dependent valve control speeds are possible – setting by means of a frequency converter depending on operating conditions
- Explosion-proof design

TECHNICAL DATA					
Actuator unit					
Max. admissible pressure PS	Depending on flange pressure stage up to 100 bar				
Max. operating pressure pmax; bi-directional operation possible	Depending on flange pressure stage up to 100 bar				
	Inlet	Outlet	Valve seat	Valve stroke (mm)	Valve travel time (s)
Pipe size DN* Valve seat diameter and stroke:	200	200	200	114	57
		250			
		300			
	250	250	200		
		300			
		400			
	300	300	200		
	300	300	300	141	70
	400	400	400	189	95
Type of connection	DIN flange PN 40 and flange according to class 600 ANSI 16.5				
Temperature range class 2 (DIN) EN 334	Ambient and operating temperatures –20 °C to +60 °C (other temperature ranges on enquiry)				
Valve sleeve	– With full compensation of static inlet and outlet pressures – With oxide-ceramic surface coating to protect guide and sealing areas				
Bubble-tight shut off of final control element (valve seal)	By means of elastic sealing ring according to DIN EN 12266 part 2; leak rate A				
With integrated noise attenuation	Standard				

* Other pipe sizes on enquiry

TECHNICAL DATA		
Electric variable-speed drive/electric control		
Power supply		230 V/50 Hz or 400 V/50 Hz*. Other voltages and frequencies on enquiry
Power consumption		0.5–1.5 kW – depends on pipe size
Control		3-step control → ccw/OFF/cw
Nominal speed n_{50}		Depends on valve travel time t_f
Valve travel time t_f		Approx. 1 to 4 min. depending on type
Stroke limiting switch; WE_{min}/WE_{max}		Standard for valve stroke 0–100 %
Emergency torque limiting switch $DME_{min/max}$		Standard
Explosion protection of variable-speed drive		II 2 G EEx de IIC T4/de IIC T3**
Electrical control	**Power supply unit**	Optional use of a frequency converter is possible with standard drive systems (DREHMO)
	Control unit (automation)	PLC or micro-controller
Actuator unit		
Mechanical transmission of power		Via rotary drive
Valve travel time t_f		Approx. 1 to 4 min. per stroke, depending on type
Position indicator (valve stroke 0–100 %)		Remote position indicator potentiometer 5 kΩ via ex-protection isolating amplifier – also 0/4–20 mA signal at control room
Materials	Casing	Cast steel (RMG standard) ***
	Internal parts of main valve	Steel, spheroidal iron, Ms, Al alloys
	Sealing rings	Rubber plastics (NBR), PTFE
Function and strength		Following DIN EN 334
Explosion protection		All mechanical components of this device are without ignition sources. They are not subject to ATEX 95 (94/9/EC). The electrical components used with this device fulfil the ATEX requirements.

* Starting with DN 400: power supply 400 V only

*** –46 °C

** Depends on variable speed drive

VALVE SPECIFICATIONS			
Pipe size Inlet (DN)	**Pipe size Outlet (DN)**	**Valve seat Ø (mm)**	**(Valve) flow rate coefficient K_G*(m³/h)/bar**
200	200	200	30,000
	250		30,000
	300		30,000
250	250	200	30,000
	300		30,000
	400		30,000
300	300	200	30,000
300	300	300	54,000
400	400	400	90,000

* for natural gas w/d = 0.64 (ρ_n = 0.83 kg/m³) and gas temperature tn = 15 °C

REGISTRATION	
CE registration according to PED	RMG CE 0085

Applications

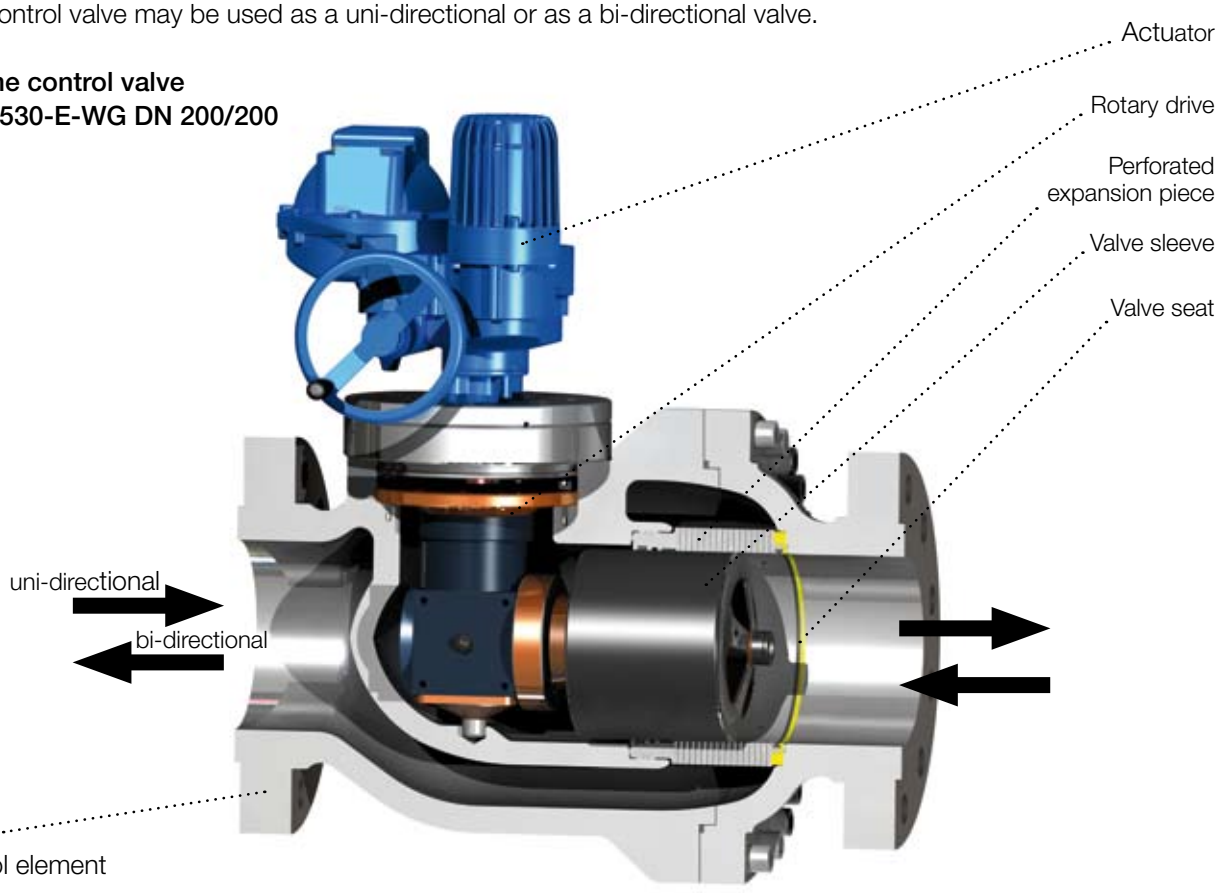
The RMG 530-E-WG volume control valve has been designed for flow-rate and pressure control duties. It is deployed in conjunction with electronic flow-rate and/or pressure control loops. Target applications are conditions where large-volume gas flows must be flow-rate and/or pressure controlled even in case of smallest pressure differences. Thanks to its favourable valve travel time, this device is particularly suitable for facilities with important storage volumes.
The RMG 530-E-WG may be of help e. g. for optimising efficient gas supply and feeding gas into and/or withdrawing gas from gas storage facilities and important mains.

Functional description

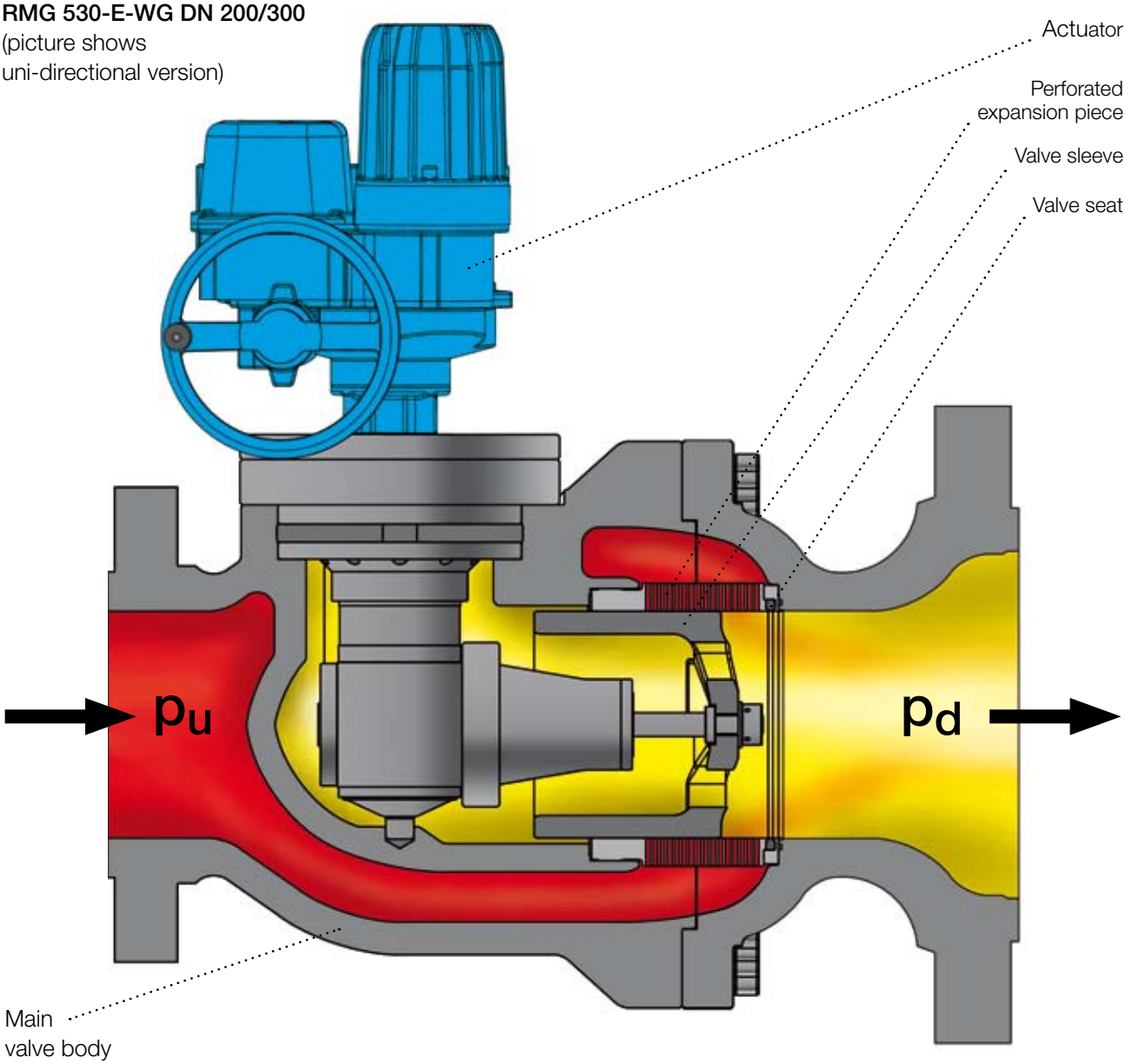
The design of the RMG 530-E-WG comprises only few parts and is easy to maintain. The final control element is based on the tested in-line flow and valve-sleeve design. The valve sleeve is designed in such a way that a complete compensation of static inlet and outlet pressures is guaranteed. The sealing ring built into the perforated expansion piece guarantees the bubble-tight shut-off of the device. The valve seat is not subject to much wear and tear due to flow during operation and should have a rather long service life.
There is an electric actuator to adjust the travel of the valve sleeve. The actuator is flange-mounted to the final control element. The drive shaft is connected directly to the rotary drive. Thanks to the variable-speed adjustment thread, the transmission system converts the rotary movement of the drive into a straight in-line travel motion of the valve sleeve and thus adjusts the opening of the valve. The valve sleeve 'floats' in the expansion piece.
The operating side may be on the left or right-hand side, at option. This volume control valve is equipped with a standard perforated expansion piece. The concepts applied here, i. e. splitting the jet via the grid plate and restricting the relief process to a limited section, reduce the noise generated up to 25 dB(A) as compared to conventional designs.

This control valve may be used as a uni-directional or as a bi-directional valve.

Volume control valve
RMG 530-E-WG DN 200/200



Volume control valve
RMG 530-E-WG DN 200/300
(picture shows
uni-directional version)



Electric actuator

The RMG 530-E-WG volume control valve is equipped with an electric actuator. The actuator operates on a rotary drive and thus adjusts the valve opening. The (optional) frequency converter, rotary drive and inline adjustment thread together provide for a very sensitive adjustment of the valve opening and, thus, a very precise control.

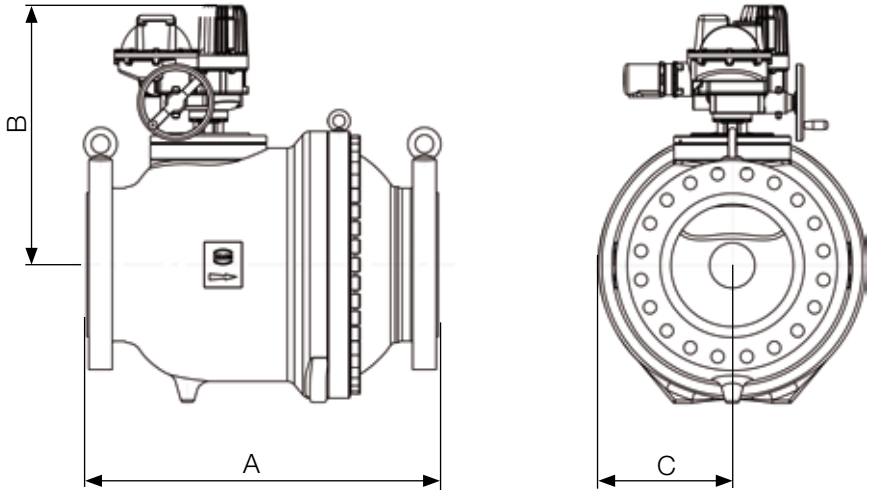
Available standard drives are for 230 V and 400 V. For other voltages, please enquire. The valve sleeve is constantly in a state of equal pressure. This facilitates operation at very low torques. Stroke limiting switches set a limit to the stroke of the valve. The valve opening may also be changed manually, by turning a hand wheel. The user decides whether the operator stands on the left or right-hand side of the device.

RMG offers retrofit kits (e. g. SCS 2001) that may be installed in order to build up fully automatic flow-rate and/or pressure control systems, e. g. for storage control systems. Variable speed drives used may be of different makes and brands.

Such a system consisting of frequency converter control and RMG automation kits may offer significant benefits when compared to conventional types. Our experienced engineers will be glad to assist you in solving your very specific automation challenges.

RMG 530-E-WG volume control valve

Dimensions and weights



DIMENSIONS, WEIGHTS										
Nominal width	Inlet	200	200	200	250	250	250	300	300	400
	Outlet	200	250	300	250	300	400	300	300	400
Max. admissible pressure Type of flange		PS = 100 bar / CLASS 600 (ANSI 16.5)								
Valve seat diameter (mm)		200							300	400
A		720/700**	783	803	850	870	830	900	900	1150
B* DREHMO (mm)		673	673	673	673	673	673	673	782	848
C* DREHMO (mm)		353	353	353	353	353	353	353	353	437
B* AUMA (mm)		526	526	526	526	526	543	526	602	668
C* AUMA (mm)		265	265	280	265	280	345	280	353	437
Weight in kg (approx.)		430/396**	491	512	525	543	600	570	1026	1780

* depends on drive

** PN 40

Example **RMG 530-E-WG - 200/300 - 200 - 1 - FU - A - So**

FINAL CONTROL ELEMENT		
Pipe size DN		Valve seat in mm
Inlet	Outlet	VS
200	200	200
200	300	200
300	300	300
400	400	400

VARIABLE SPEED DRIVE	
Manufacturer: DREHMO	1
Manufacturer: AUMA	2

ELECTRIC POWER CONTROL	
Frequency converter	FU

ELECTRIC SIGNAL CONTROL	
Automation (please specify details)	A

SPECIAL DESIGN (PLEASE SPECIFY DETAILS)	
	So

For More Information

To learn more about RMG´s advanced gas solutions, contact your RMG account manager or visit www.rmg.com

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