



# OVERVIEW OF PRODUCTION RANGE

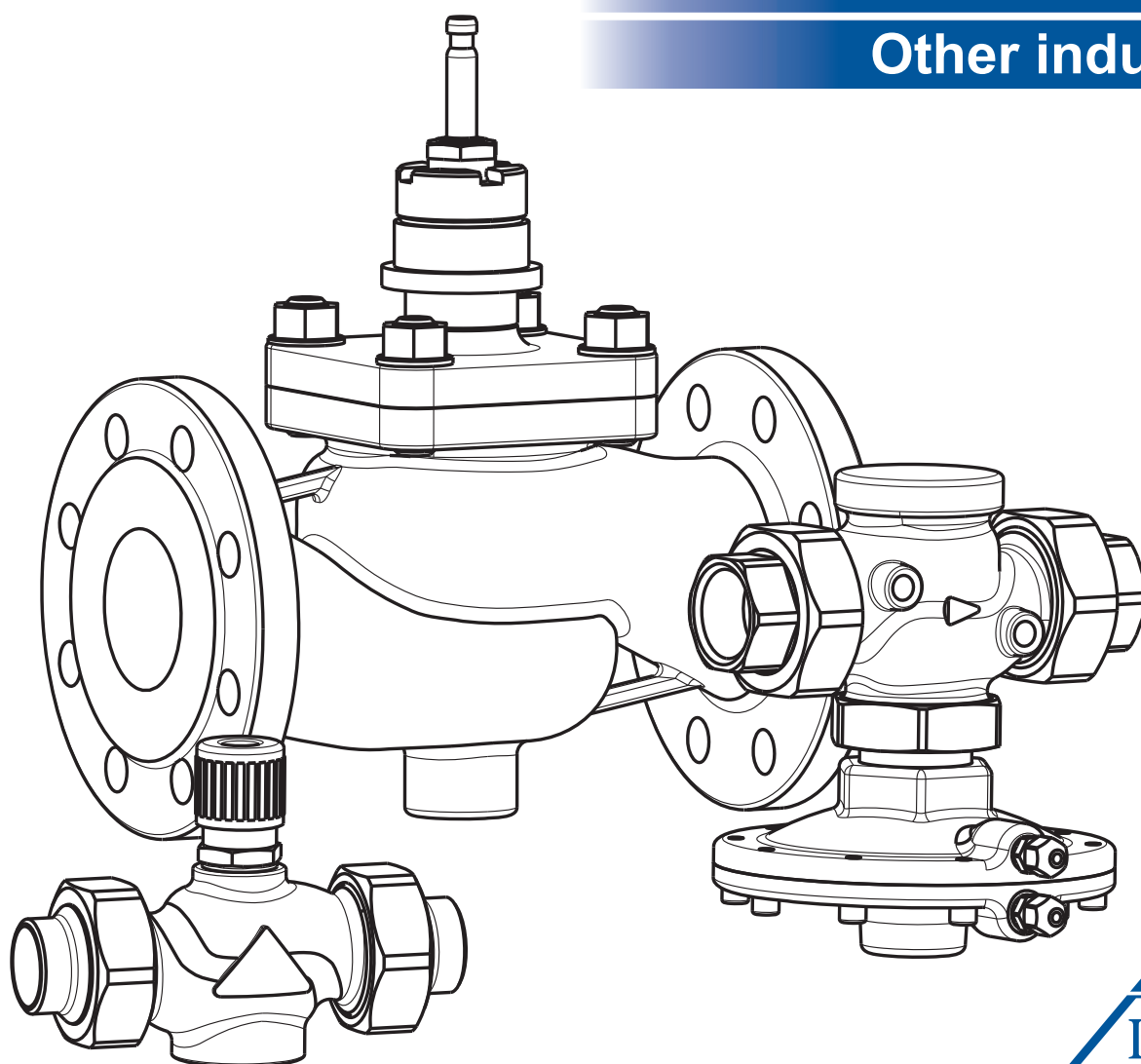
Heating

Ventilation

Air conditioning

Gas industry

Other industries



05.21.GB

Valve		102 and 103				113	COMAR line	BEE line		UV x16	
Series		RV 102	RV 103	RD 102	RD 103	RV 113	RV 111	RV 122	RD 122	UV 116	UV 216
Valve type	Regulator of outlet pressure			●	●				●		
	Regulator of differential pressure			●	●				●		
	Regulator of inlet pressure										
	Pressure relief regulator										
	Control valve	●	●			●	●	●			
	Fail-safe action valve										
	Shut-off valve									●	●
	Check valve										
	Strainer										
Valve version	Two-way	●	●				●			●	●
	Two-way, pressure-balanced			●	●	●		●	●		
	Three-way	●	●			●	●				
	Direct (Plug down to close)							●	●	●	●
	Reverse (Plug down to open)	●	●	●	●	●	●				
Connection	Flanged		●		●	●	●	●	●	●	●
	Threaded	●		●			●	●	●		
	Weld ends						●	●	●		
Diameter nominal DN		15 - 50	15 - 50	15 - 50	15 - 50	15 - 150	15 - 40	15 - 50	15 - 50	15 - 300	15 - 200
Pressure nominal PN		16	16	16	16	6; 16; 25	16	25	25	16	25
Range of Kvs [m³/h]		0,6 - 40	0,6 - 40	2 - 20	2 - 20	0,63 - 360	0,16 - 25	0,16 - 40	0,63 - 32	5,9 - 1460	5,9 - 690
Diameter nominal NPS											
Pressure nominal Class											
Range of Cv [US Galon/min]											
Body material	Bronze	●		●							
	Grey cast iron		●		●	●	●			●	
	Spheroidal cast iron					●		●	●		●
	Cast steel										
	Alloy steel										
	Stainless steel										
Packing	O-ring EPDM	●	●	●	●	●	●	●	●		
	DRSpack® (PTFE)										
	Graphite									●	●
	Bellows										
	Bellows with safety PTFE packing										
	Bellows with safety Graphite pack.										
Seat sealing	Metal - metal	●	●							●	●
	Metal - EPDM			●	●	●	●	●	●		
	Metal - PTFE										
	Stellited trim										
Flow characteristics	Linear	●	●	●	●		●		●		
	Equal-percentage	●	●								
	LDMspline®					●	●	●			
	Parabolic										
	On-off									●	●
Actuating type	Hand wheel	●	●				●			●	●
	Electromechanic actuator	●	●			●	●	●			
	Electrohydraulic actuator	●	●			●					
	Pneumatic actuator										





## HISTORY AND PRESENT TIME OF LDM

LDM spol, s r. o. was established by three partners in the mid of 1991. From the very beginning it has always been and also for the future will be focused on production of industrial valves.

The history of production of industrial valves in Česká Třebová is dated since 1909 when Mr. Josef Jindra founded a company with the homonymic firm name.

In 1919 he amalgamated with Mr. Václav Šrefl and established the company Šrefl and Jindra, later registered as Jindra and Šrefl. Then production programme included wide variety valves from small brass water valves over gas valves up to steam valves made of cast steel, including steam safety valves. At the end of 1929 both partners were separating and both founded own factory in Česká Třebová for manufacturing of industrial valves. Nowadays the former Šrefl's factory is the part of production facilities of LDM.

After nationalization in 1948 both companies changed their names several times till 1975 when became a part of worldwide known Czechoslovak concern Sigma Lutín. After so-called velvet revolution is the Sigma concern separated to different companies which were privatized or restored.

Also the Sigma Česká Třebová was privatized and became an joint-stock company, nevertheless the company became bankrupt in 1995. LDM bought it and became the continuator of more than 100-years of valves manufacturing tradition in Česká Třebová. Currently LDM is strongly export-oriented company with more than 220 employees and LDM industrial valves can be found worldwide particularly in power generation, industrial processes, heating, ventilation, air conditioning, gas industry and other applications.

LDM product range includes control valves, shut-off valves and safety valves in pressure ranges from PN 6 to PN 400 and dimensions from DN 10 to DN 600. The wide product portfolio is a reason why LDM valves can be found in almost all fields of human activities where it is necessary to control a flow, pressure or temperature.

LDM has its own subsidiary in Slovakia, Poland, Bulgaria, Germany, Russia and Kazakhstan and many authorized partners in other countries.



*Period catalogue of Jindra and Šrefl company in 20's*



*A sample of manufacturing portfolio of LDM nowadays*





LDM has also well-established and certified integrated quality management system according to standards ISO 9001, ISO 14001 and OHSAS 18001 which it is ensuring permanent quality and a high level of all company processes.

As follows from above mentioned, LDM company dignity continues the long-time tradition of industrial valves manufacturing in Česká Třebová to which proudly claims as its successor. The company's future consist in fulfilment of the vision that was allready defined in 1995:

- World-famous, leading and trend-making company in the development, production, sale and service of industrial valves
- Dynamic company allowing to all their employees achievement of high level of self-fulfillment and social prestige
- Reputable company whose name stands for high utility value, quality and reliability

Successfull fulfillment of the vision results from the conviction, that three main pillars on which the company stands are strong. The first pillar are our customers and their needs whose satisfaction is directed effort of the whole company to. The second pillar are our products. LDM is company which firmly stands on its own development, so the cycle of a development, design, manufacturing, sale and service is closed. The third and no less important pillar are own employees who are able to respond flexibly to constantly changing market requirements and who are able to actively and jointly form the company future.

Ultimately, not only many awards from international exhibitions from past, but also many OEM products, whose LDM manufacture and delivers to many other producers under their own brand, recognize the high quality of LDM production and confirm the right way, which LDM took in 1991.



LDM facility today



# 102 and 103 (RV 10x)

DN 15 to 50, PN 16,  $t_{max} = 150^{\circ}\text{C}$ , range of Kvs: 0,6 to 40  $\text{m}^3/\text{h}$

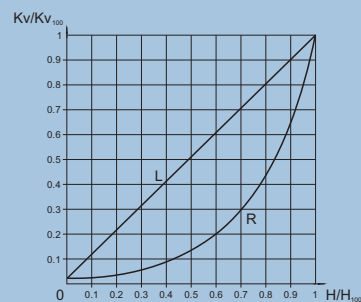
## Connection to the following actuators

Siemens, Johnson Controls, Honeywell,  
Belimo, Ekorex+, ZPA Nová Paka, Regada

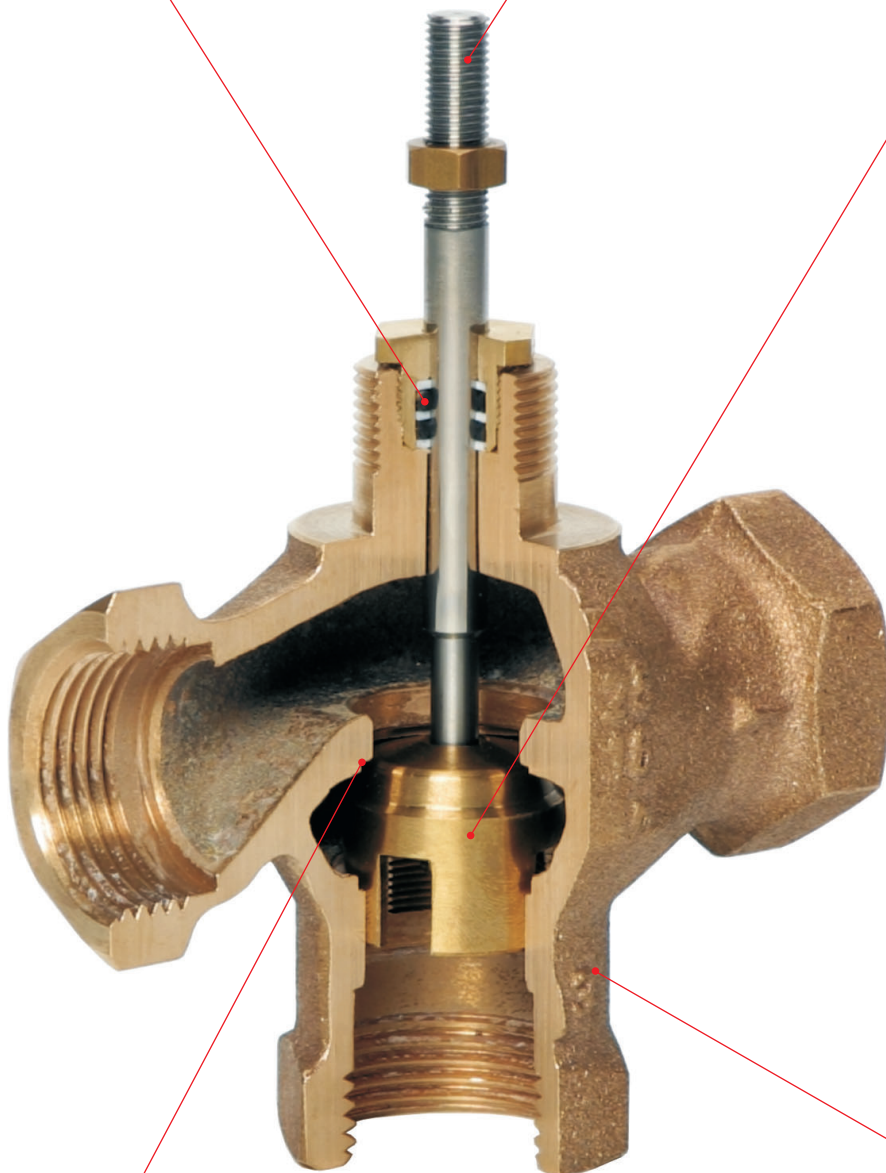
## Packing - O-ring EPDM

- 0 to 150°C,
- service life is more than 400 000 cycles

## Flow characteristic of the valve



- L - linear characteristic
- R - equal-percentage characteristic



## Seat leakage rate

< 0,1 % of Kvs in A-AB way

## Series

RV 102



RV 103



RV 102

- body material bronze 42 3135
- connection - internally threaded coupling

RV 103

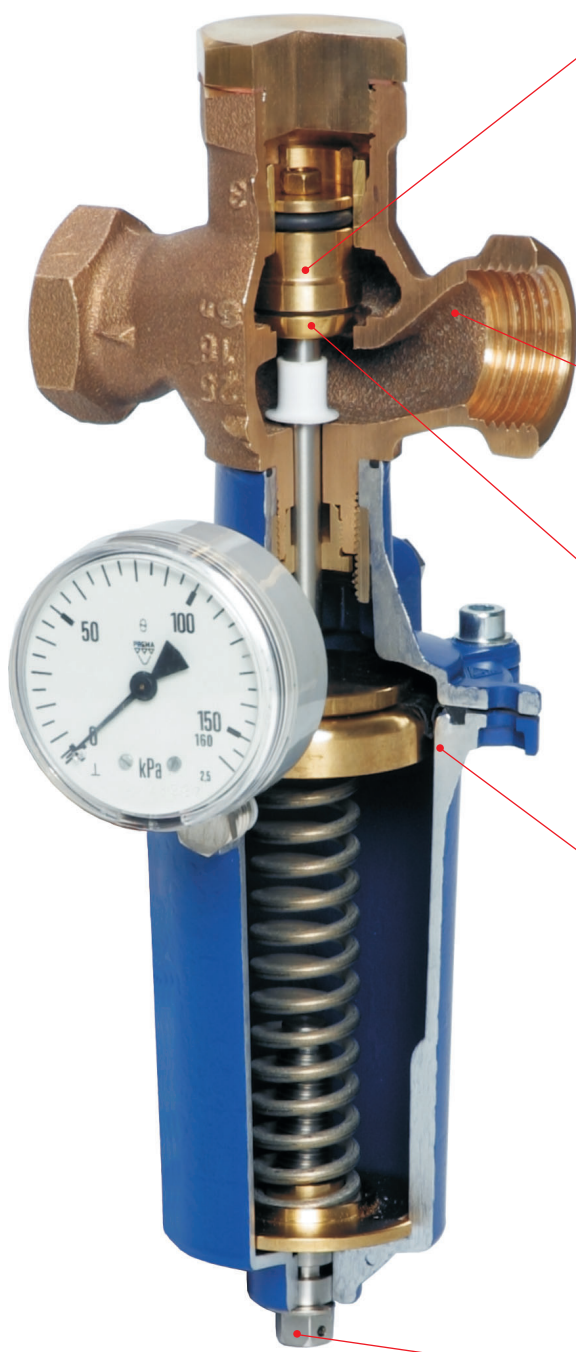
- body material: grey cast iron EN-JL1040
- connection - raised-faced flanges

Type	Series		Description	For the following actuators:
Control valves two-way	RV 102		Two-way, reverse (plug down to open), internally threaded coupling, body material: bronze RG5	Siemens, Johnson Controls, Honeywell, Belimo, ZPA Nová Paka, Ekorex+, Regada
	RV 103		Two-way, reverse (plug down to open), raised-faced flanges, body material: grey cast iron EN-JL1040	Siemens, Johnson Controls, Honeywell, Belimo, ZPA Nová Paka, Ekorex+, Regada
Control valves three-way	RV 102		Three-way, internally threaded coupling, body material - bronze RG5	Siemens, Johnson Controls, Honeywell, Belimo, ZPA Nová Paka, Ekorex+, Regada
	RV 103		Three-way, raised-faced flanges, body material - grey cast iron EN-JL1040	Siemens, Johnson Controls, Honeywell, Belimo, ZPA Nová Paka, Ekorex+, Regada

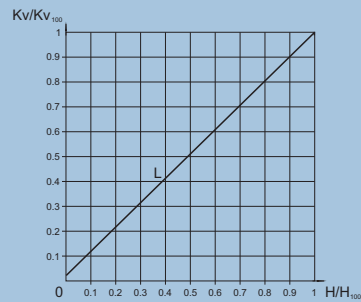


# 102 and 103 (RD 10x)

DN 15 to 50, PN 16,  $t_{\max} = 140^{\circ}\text{C}$ , range of Kvs: 2 to 20  $\text{m}^3/\text{h}$



## Flow characteristics



L - linear characteristic

## Series

RD 102



RD 103



RD 102

- body material: bronze 42 3135
- connection - internally threaded coupling

RD 103

- body material: grey cast iron EN-JL 1040
- connection - raised-faced flanges

## Pressure-balanced plug with soft sealing

(tight in closed position)

## Version

RD 10x V

- outlet pressure regulator





RD 10x D

- differ. pressure regulator

## Spring setting

Setting range of reducing pressure

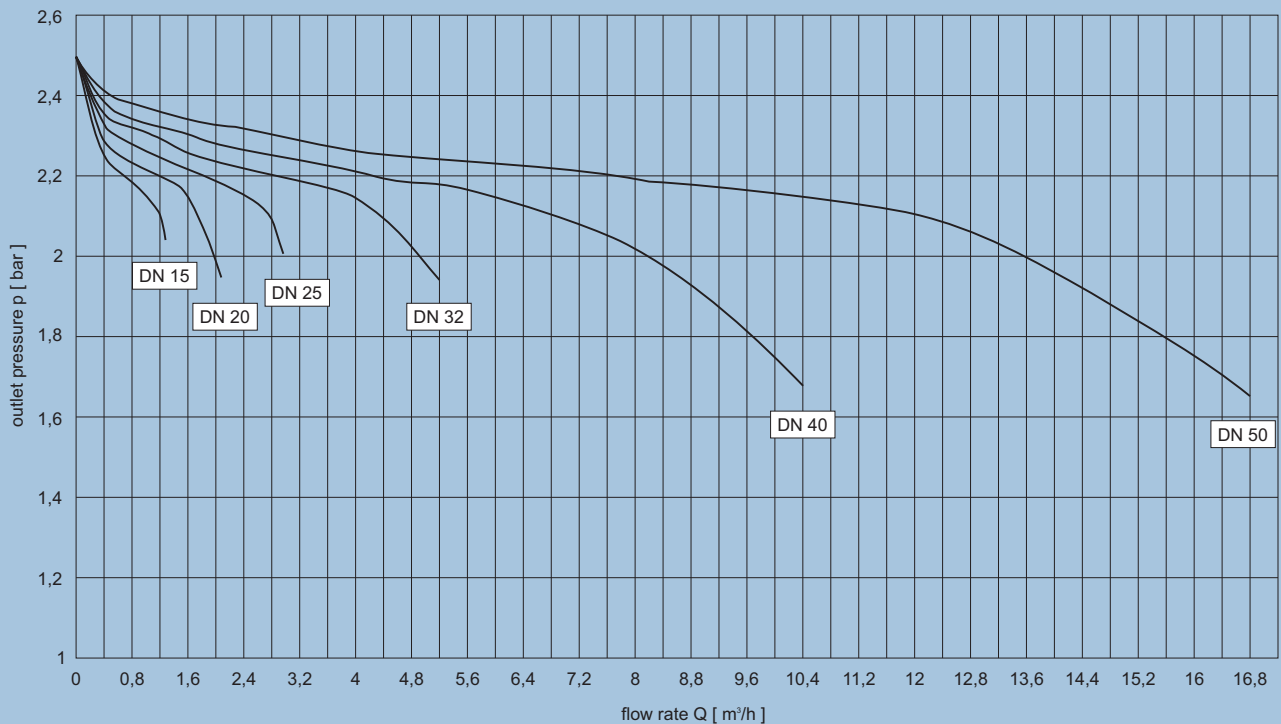
- 0,025 to 0,1 MPa
- 0,08 to 0,3 MPa
- 0,2 to 0,65 MPa
- 0,3 to 1,0 MPa

Type	Series		Description	For the following actuators:
Outlet pressure regulator	RD 102 V		Self-acting regulator of outlet pressure, internally threaded coupling, body material - bronze RG 5	Controlled by process medium flowing through the valve
	RD 103 V		Self-acting regulator of outlet pressure, flanged, body material - grey cast iron EN-JL1040	Controlled by process medium flowing through the valve
Differential pressure regulator	RD 102 D		Self-acting regulator of differential pressure, internally threaded coupling, body material - bronze RG 5	Controlled by process medium flowing through the valve
	RD 103 D		Self-acting regulator of differential pressure, flanged, body material - grey cast iron EN-JL1040	Controlled by process medium flowing through the valve

### Diagrams of the flow through the pressure reducing valve in behaviour to outlet pressure drop

Valves DN 15 to 50 equipped with spring range 0.08 to 0.3 MPa.

RD 102 V12 16/140-xx, inlet pressure 5,5 bar, outlet pressure set to 2,5 bar, process medium: water



# 113 (RV 113)

DN 15 to 150, PN 6, 16 and 25,  $t_{max} = 150^{\circ}C$ , range of Kvs: 0,63 to 360 m<sup>3</sup>/h

### Unified connection to the actuators

Siemens, Belimo, Ekorex+, LDM, Regada  
All used actuators have unified connection which enables an easy replacement or substitution

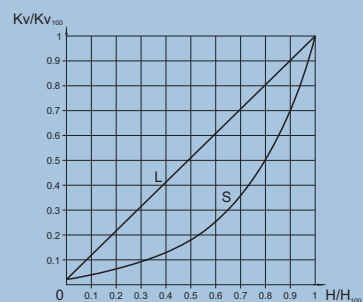
### Packing - O-ring EPDM

- 2 to 150°C,
- life-time more than 500 000 cycles

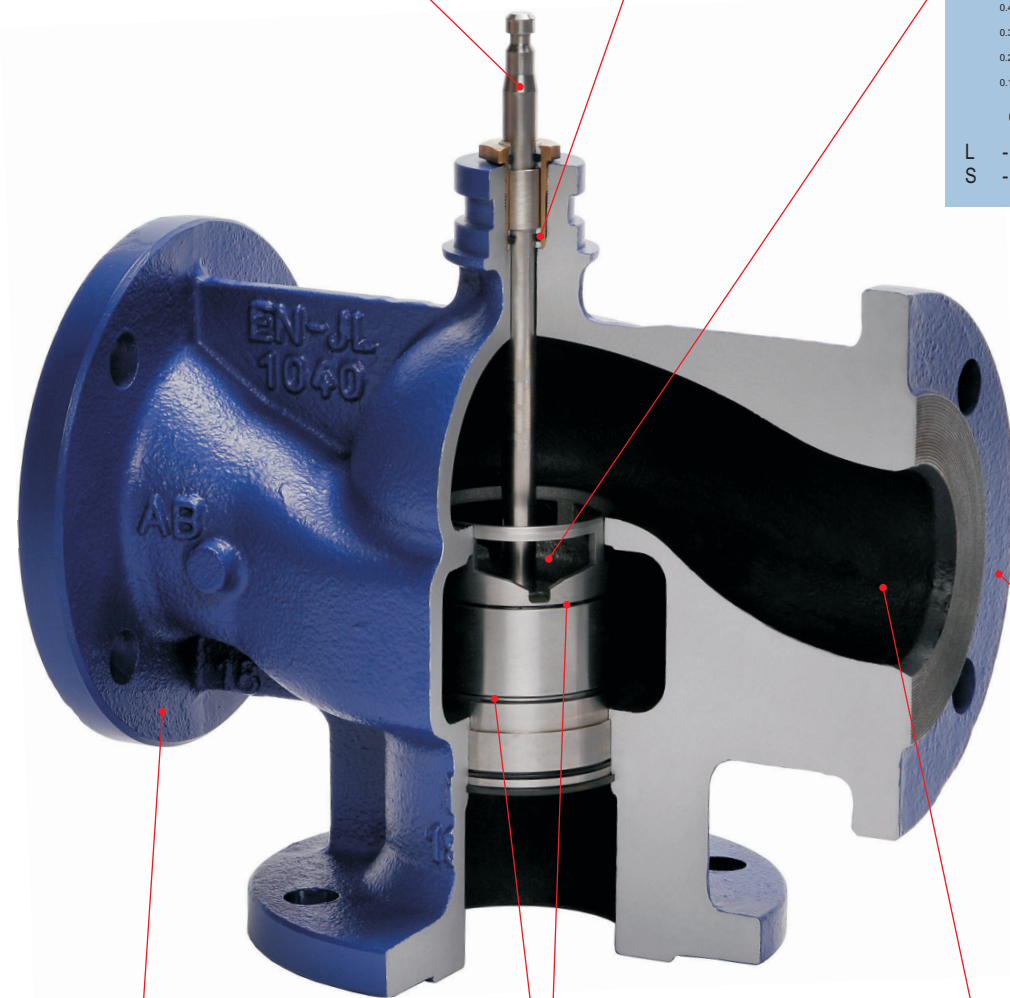
Sophisticated design enables long-time tightness with no necessary maintenance.

### Flow characteristics

LDMspline® in straight way, linear in angle way



- L - linear characteristic
- S - LDMspline® characteristic



### Body material

- Grey cast iron EN-JL1040
- Spheroidal cast iron EN-JS1025

### EPDM seat sealing

- tightness in both ways
- leakage rate < 0,0005 % Kvs



### Version



### Flow properties

Hydraulically contoured channels in the valve enable high values of Kvs even with low stroke values of the valve.



Type	Series		Description	For the following actuators:
Control valves	RV 113 R RV 113 L		Two-way, reverse, with raise-faced flanges, body material - grey cast iron, spheroidal cast iron	Siemens, Belimo, Ekorex+, LDM, Regada
	RV 113 M RV 113 S		Three-way, reverse, with raise-faced flanges, body material - grey cast iron, spheroidal cast iron	Siemens, Belimo, Ekorex+, LDM, Regada

# COMAR line (RV 111)

DN 15 to 40, PN 16,  $t_{max} = 150^{\circ}C$ , range of Kvs: 0,16 to 25 m<sup>3</sup>/h

## Actuating

- hand wheel
  - electromechanic actuators
- Simple design  
- put the actuator on the valve and simply tighten it with the actuator's cap nut

RV 111 R



RV 111 S



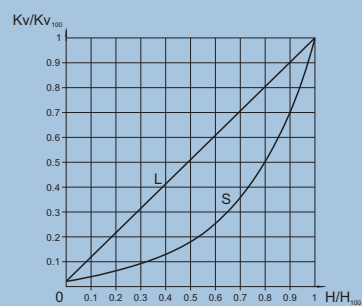
## Differential pressures

DN	$\Delta p_{max}$ [kPa]
15	400
20	350
25	200
32	110
40	60

## Packing - O-ring EPDM

- 2 to 150°C,
- service life more than 1 000 000 cycles

## Flow characteristics



L - linear characteristic  
S - LDMspline® characteristic



## Version

two-way



three-way



## Plug with soft sealing Seat leakage rate

< 0.0005 % Kvs

## Body material

- Grey cast iron EN-JL 1030

## Connection

Threaded coupling



Weld unions



Flange PN 16



Type	Series		Description	For the following actuators:
Control valves, two-way	RV 111 R 2../T RV 111 S 2../T		Two-way, reverse (push down to open), with threaded couplings	LDM, Siemens, Sauter, hand wheel
	RV 111 R 2../W RV 111 S 2../W		Two-way, reverse (push down to open), with weld unions	LDM, Siemens, Sauter, hand wheel
	RV 111 R 2../F RV 111 S 2../F		Two-way, reverse (push down to open), with raised-faced flanges PN 16	LDM, Siemens, Sauter, hand wheel
Control valves, three-way	RV 111 R 3../T RV 111 S 3../T		Three-way, reverse (push down to open), with threaded couplings	LDM, Siemens, Sauter, hand wheel
	RV 111 R 3../W RV 111 S 3../W		Three-way, reverse (push down to open), with weld unions	LDM, Siemens, Sauter, hand wheel
	RV 111 R 3../F RV 111 S 3../F		Three-way, reverse (push down to open), with raised-faced flanges PN 16	LDM, Siemens, Sauter, hand wheel



# BEE line (RV 122)

DN 15 to 50, PN 25,  $t_{max} = 150^{\circ}\text{C}$ , range of Kvs: 0,16 to 40  $\text{m}^3/\text{h}$

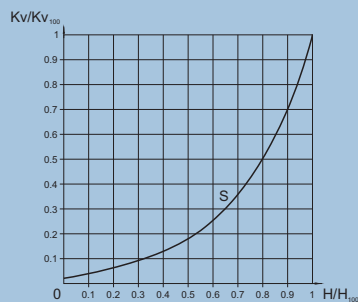
## Actuator connection

- No-coupling design
- put the actuator on the valve and simply tighten the actuator's cap nut

## Packing - O-ring EPDM

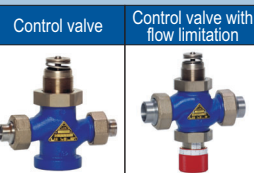
- 2 to 150°C,
- service life more than 1 000 000 cycles

## Flow characteristic



S - LDMspline® characteristic

## Execution of control function



Flow limitation can be used as a separate closing element.

Pressure-balanced plug with soft sealing (EPDM)







Seat leakage rate  
< 0.0005 % Kvs

## Body material

- Sph. cast iron EN-JS1030

## Connection



Type	Series		Description	For the following actuators:
Control valves	RV 122/T		Two-way, pressure-balanced, push down to close, with threaded couplings	LDM
	RV 122/W		Two-way, pressure-balanced, push down to close, with weld unions	LDM
	RV 122/F		Two-way, pressure-balanced, push down to close, with PN 25 raised-faced flanges	LDM
Control valves with flow limitation	RV 122P/T		Two-way, pressure-balanced, push down to close, with threaded couplings	LDM
	RV 122P/W		Two-way, pressure-balanced, push down to close, with weld unions	LDM
	RV 122P/F		Two-way, pressure-balanced, push down to close, with PN 25 raised-faced flanges	LDM

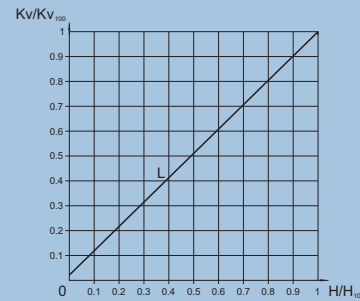
# BEE line (RD 122)

DN 15 to 50, PN 25,  $t_{max} = 150^{\circ}\text{C}$  ( $180^{\circ}\text{C}$ ), range of Kvs: 2,5 to 32 m<sup>3</sup>/h

## Connection

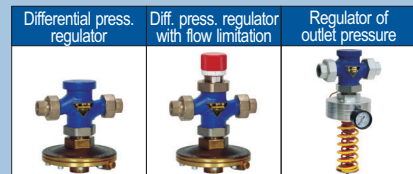


## Flow characteristics



L - linear characteristic

## Version of control function

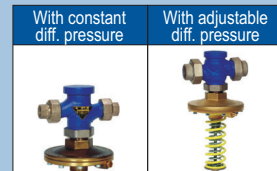


Flow limitation can be used as a separate closing element

**Soft sealing plug - seat**  
(tight in closed position)

**Pressure-balanced plug**

## Version of controlling head



- Constant differential pressure
- DN 15 to 25 • 10 kPa
  - DN 32 to 50 • 10; 20 kPa
- Adjustable differential pressure
- DN 15 to 25 • 15 to 60 kPa
  - 30 to 210 kPa
  - 60 to 400 kPa
  - DN 32 to 50 • 15 to 60 kPa
  - 25 to 70 kPa
  - 40 to 220 kPa
  - 70 to 410 kPa
  - DN 15 to 50 • 150 to 550 kPa
  - 220 to 1000 kPa

## Body material

- Sph. cast iron EN-JS1030










## Cooling condensing well



## Optional temperature version up to 180°C

- impulse pipeline with condensate cooler
- sealing for higher temperature



Type	Series		Description	For the following actuators:
Differential pressure regulators	RD 122D/T		Self-acting regulator of differential pressure with threaded couplings	Controlled with medium flowing through the valve
	RD 122D/W		Self-acting regulator of differential pressure with weld unions	Controlled with medium flowing through the valve
	RD 122D/F		Self-acting regulator of differential pressure with PN 25 raised-faced flanges	Controlled with medium flowing through the valve
Differential pressure regulator with flow limitation	RD 122P/T		Self-acting regulator of differential pressure with threaded couplings	Controlled with medium flowing through the valve
	RD 122P/W		Self-acting regulator of differential pressure with weld unions	Controlled with medium flowing through the valve
	RD 122P/F		Self-acting regulator of differential pressure with PN 25 raised-faced flanges	Controlled with medium flowing through the valve
Regulators of outlet pressure	RD 122V/T		Self-acting regulator of outlet pressure with threaded couplings	Controlled with medium flowing through the valve
	RD 122V/W		Self-acting regulator of outlet pressure with weld unions	Controlled with medium flowing through the valve
	RD 122V/F		Self-acting regulator of outlet pressure with PN 25 raised-faced flanges	Controlled with medium flowing through the valve

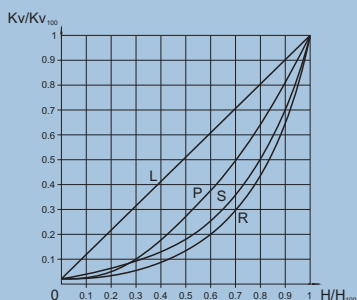
# 200 line (RV/HU/UV 2xx)

DN 15 to 600, PN 16, 25 and 40,  $t_{max} = 500^{\circ}\text{C}$ , range of Kvs: 0,01 to 4000 m<sup>3</sup>/h

## Connection to the following actuators

Siemens, Johnson Controls, Honeywell, Belimo, Auma, Schiebel, Rotork, Flowserve, A.Hock, PS Automation, ZPA Nová Paka, Ekorex+, ZPA Pečky, Regada, LDM, Hand wheel

## Flow characteristics



- L - linear characteristic
- R - equal-percentage characteristic
- P - parabolic characteristic
- S - LDMspline<sup>®</sup> characteristic

## Design

- push down to close
- push down to open

## Packing types

O - ring EPDM	DRSpack <sup>®</sup>	Graphite	Bellows

EPDM 0 to 140°C, service life more than 500 000 cycles  
 DRSpack<sup>®</sup> (PTFE), 0 to 260°C, service life more than 700 000 cycles  
 Graphite 0 to 500°C  
 Bellows -50 to 500°C, service life minimum 10 000 to 100 000 cycles in behaviour to medium temperature

## Body material

- 1 spheroidal cast iron EN-JS 1025 -10 to 300°C
- 2 cast steel 1.0619 -10 to 400°C  
CrMo steel 1.7357 -10 to 500°C
- 3 stainless steel 1.4581 -10 to 400°C
- 4 nickel alloy MONEL -50 to 400°C

*substitute body material instead of "x" in specification code*

## Seat sealing

metal - metal	Soft sealing metal - PTFE	Stellited sealing surfaces

- < 0.1 % of Kvs with metal - metal seat sealing
- < 0.01 % of Kvs with metal - PTFE seat sealing

## Version

two-way	three-way

## Flange faces










- Acc. to EN 1092-1
- raised-faced flanges type B1
  - female flanges type F
  - flange with groove type D

## Plug types



L - linear	R - equal-percent.	S - LDMspline <sup>®</sup>	P - parabolic	D - linear perforated	Q - equal-percent perforated	Z - parabolic perforated

Plug types: • contoured • V-ported • perforated • micro-throttling trim. All types of V-ported and perforated plugs available also in pressure-balanced version

Type	Series		Description	For the following actuators:
Control valves	RV 2x0		Two-way, straight-through, plug down to close DN 15 to 400 PN 16, 25 and 40	ZPA Nová Paka, Ekorex+, Johnson Controls, Auma, Schiebel, Rotork, Flowserve, A.Hock, PS Automation, ZPA Pečky, Regada, Hand wheel
	RV 2x1		Two-way, straight-through, reverse (plug down to open) DN 15 to 150; PN 16 and 40	Siemens, Johnson Controls, PS Automation, Honeywell, Belimo, LDM
	RV 2x2		Two-way, pressure-balanced (for higher differential pressures), plug down to close DN 25 to 600 PN 16, 25 and 40	ZPA Nová Paka, Ekorex+, Johnson Controls, Auma, Schiebel, Rotork, Flowserve, A.Hock, PS Automation, ZPA Pečky, Regada, Hand wheel
	RV 2x3		Two-way, pressure-balanced (for higher differential pressures), reverse (plug down to open) DN 25 to 150; PN 16 and 40	Siemens, PS Automation, Honeywell, Belimo, LDM
	RV 2x4		Three-way, plug down to close the angle way DN 15 to 300 PN 16, 25 and 40	ZPA Nová Paka, Ekorex+, Johnson Controls, Auma, Schiebel, Rotork, Flowserve, A.Hock, PS Automation, ZPA Pečky, Regada, Hand wheel
	RV 2x5		Three-way, reverse, plug down to close the angle way DN 15 to 150 PN 16 and 40	Siemens, PS Automation, Honeywell, Belimo, LDM
Fail-safe action valves	HU 2x1		Two-way, reverse plug down to open DN 15 to 150; PN 16 and 40	Siemens, PS Automation, Honeywell, Belimo, LDM
	HU 2x3		Two-way, pressure-balanced (for higher differential pressures), reverse (plug down to open) DN 25 to 150; PN 16 and 40	Siemens, PS Automation, Honeywell, Belimo, LDM
Shut-off valves	UV 2x0		Shut-off plug down to close DN 15 to 400 PN 16, 25 and 40	ZPA Nová Paka, Ekorex+, Johnson Controls, Auma, Schiebel, Rotork, Flowserve, A.Hock, PS Automation, ZPA Pečky, Regada, Hand wheel



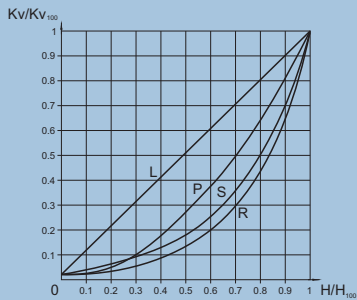
# 200 line (CV/SV 2xx)

NPS 1/2" to 10", Class 150,  $t_{max} = 550^{\circ}\text{C}$  (1020°F), range of Cvs: 0,012 to 950 US Galon/min

### Connection to the following actuators

Auma, Schiebel, Rotork, Regada,  
Flowserve, A.Hock, Hand wheel

### Flow characteristics

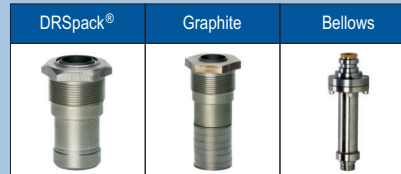


- L - linear characteristic
- R - equal-percentage characteristic
- P - parabolic characteristic
- S - LDMspline® characteristic

### Design

- push down to close

### Packing types



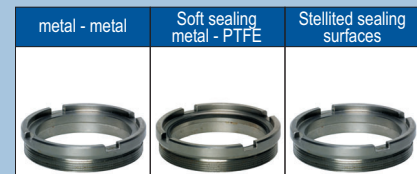
DRSpack® (PTFE), 0 to 260°C (32 to 500°F), service life more than 700 000 cycles  
 Graphite 0 to 550°C (32 to 1020°F)  
 Bellows -50 to 550°C (-58 to 1020°F), service life minimum 10 000 to 100 000 cycles in behaviour to medium temperature

### Body material

- 1 cast steel A216 WCB -29 to 425°C (-20 to 797°F)
- 7 CrMo steel A217 WC6 -29 to 550°C (-20 to 1020°F)
- 8 stainless steel A351 CF8M -50 to 550°C (-58 to 1020°F)

substitute body material instead of "x" in specification code

### Seat sealing



- < 0.1 % of Kvs with metal - metal seat sealing
- < 0.01 % of Kvs with metal - PTFE seat sealing

### Version

two-way






### Flange faces

- Acc. to ASME B16.5
- RF (Raised Face)
  - LFF (Large Female Face)
  - SFF (Small Female Face)
  - LGF (Large Groove Face)
  - SGF (Small Groove Face)

### Plug types

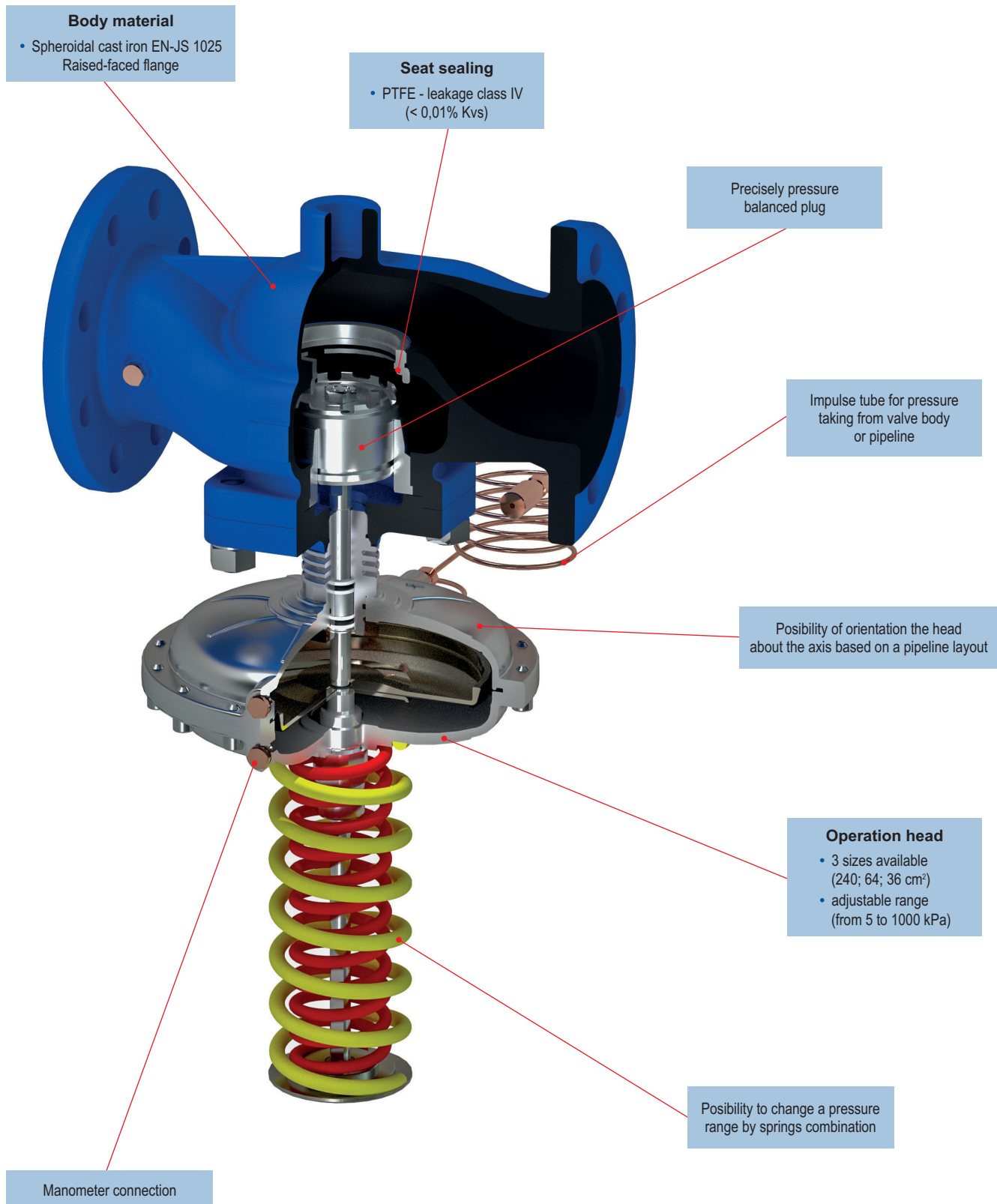


Plug types: • contoured • V-ported • perforated • micro-throttling trim. All types of V-ported and perforated plugs available also in pressure-balanced version






Type	Series		Description	For the following actuators:
Control valves	CV 2x0		Two-way, straight-through, plug down to close NPS 1/2" to 10", Class 150	Auma, Schiebel, Rotork, Regada, Flowserve, A.Hock, Hand wheel
	CV 2x2		Two-way, pressure-balanced (for higher differential pressures), plug down to close NPS 1" to 10, Class 150	Auma, Schiebel, Rotork, Regada, Flowserve, A.Hock, Hand wheel
Shut-off valves	SV 2x0		Shut-off plug down to close NPS 1/2" to 10", Class 150	Auma, Schiebel, Rotork, Regada, Flowserve, A.Hock, Hand wheel

# 200 line (RD 21x)

DN 65 to 150, PN 16, 25,  $t_{max} = 180^{\circ}C$ , range of Kvs: 72 to 235 m<sup>3</sup>/h





Type	Series		Description	For the following actuators:
Differential pressure regulators	RD 212 D		Self-acting regulator of differential pressure DN 65 to 150, PN 16 and 25	Controlled with medium flowing through the valve (closes with increasing $\Delta p$ )
	RD 212 P		Self-acting regulator of differential pressure with flow limiter DN 65 to 150, PN 16 and 25	Controlled with medium flowing through the valve (closes with increasing $\Delta p$ )
Regulators of outlet pressure	RD 212 V		Self-acting regulator of outlet pressure DN 65 to 150, PN 16 and 25	Controlled with medium flowing through the valve (closes with increasing outlet pressure)
Pressure relief regulator	RD 213 R		Self-acting pressure relief regulator DN 65 to 150, PN 16 and 25	Controlled with medium flowing through the valve (opens with increasing $\Delta p$ )
Regulator of inlet pressure	RD 213 S		Self-acting regulator of inlet pressure DN 65 to 150, PN 16 and 25	Controlled with medium flowing through the valve (opens with increasing inlet pressure)

# UV x16, UV 200

DN 15 to 400, PN 16, 25, 40,  $t_{max} = 400\text{ }^{\circ}\text{C}$  (550  $^{\circ}\text{C}$ ), range of Kvs: 4,3 to 1800 m<sup>3</sup>/h

## Non-rising hand wheel

- for version 22x and 23x
- Enables the valve usage at tight spaces due to its yoke design that enables a safe operation even at high temperatures of process medium

## Low linear force

Sizes DN 150 and higher in B, V execution are equipped with pressure balanced plug with pilot system

## Well-marked indicator

ensures an easy identification of actual position of the valve

## Packing

Graphite	PTFE (GORE DP)	Bellows with safety packing
		

Graphite	UV xx6 ... 0 to 400 $^{\circ}\text{C}$ UV 2x7 ... 0 to 550 $^{\circ}\text{C}$
PTFE (GORE DP)	0 to 260 $^{\circ}\text{C}$
Bellows with safety packing	-60 to 550 $^{\circ}\text{C}$

Bellows packing ensures a hermetic tightness of the valve to outer environment. Bellows is equipped with a safety tube which protects the bellows during operation against damage caused by effects of medium flow, abrasion and erosion.

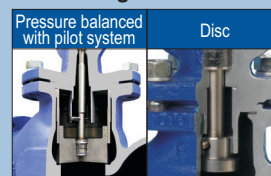
## Spiral-wound gasket of a bonnet

(type UV 2x7 only)

## Back seat

The valves with graphite packing are equipped with back seat enabling packing replacement without draining off the piping system

## Plug version



## The valve tightness








- leakage rate class BN1 acc. to DIN 3230
- Guaranteed tightness in closed position is "0" drops  
Wide choice of seat / plug material (type UV 2x7 only)

## Plug protection against vibrations

plug is guided throughout the stroke travel with a guide tube and is pressed against the stoppage when the valve is fully open

## Body material

<b>116</b>	grey cast iron EN-JL1040	2 to 300 $^{\circ}\text{C}$
<b>216</b>	pher. cast iron EN-JS1025	2 to 350 $^{\circ}\text{C}$
<b>22x</b>	cast steel 1.0619	-10 to 400 $^{\circ}\text{C}$
<b>23x</b>	stainless steel 1.4581	-10 to 550 $^{\circ}\text{C}$
	the other materials	-60 to 550 $^{\circ}\text{C}$

Type	Series		Description	For the following actuators:
Shut-off valves	UV 2x6 R UV 2x7 R		Two-way, straight-through, with bellows DN 15 to 150 PN 16, 25 and 40	Hand wheel
	UV 2x6 V UV 2x7 V		Two-way, straight-through, pressure-balanced plug with bellows DN 150 to 400, PN 16, 25, 40	Hand wheel
	UV 2x6 S UV 2x7 S		Two-way, straight-through, DN 15 to 150 PN 16, 25 and 40 Graphite packing	Hand wheel
	UV 2x6 B UV 2x7 B		Two-way valve, straight-through with pressure-balanced valve DN 150 to 400, PN 16, 25, 40 Graphite packing	Hand wheel
	UV 2x6 G UV 2x7 G		Two-way, straight-through, DN 15 to 150 PN 16, 25 and 40 PTFE (GORE DP) packing	Hand wheel
	UV 116		Two-way, straight through DN 15 to 300, PN 16 Graphite packing	Hand wheel
	UV 216		Two-way, straight-through DN 15 to 200, PN 25 Graphite packing	Hand wheel



# Check valves

DN 15 to 300, PN 16, 25 and 40,  $t_{max} = 400^{\circ}\text{C}$ , Kvs-values: 4,3 to 1460  $\text{m}^3/\text{h}$

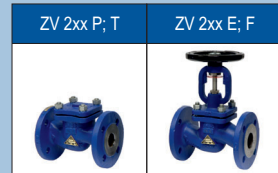
**Spiral-wound gasket of a bonnet**  
(type ZV 2x7 only)

**Valve function**  
Self acting mechanism ensures flow of the medium only in selected direction

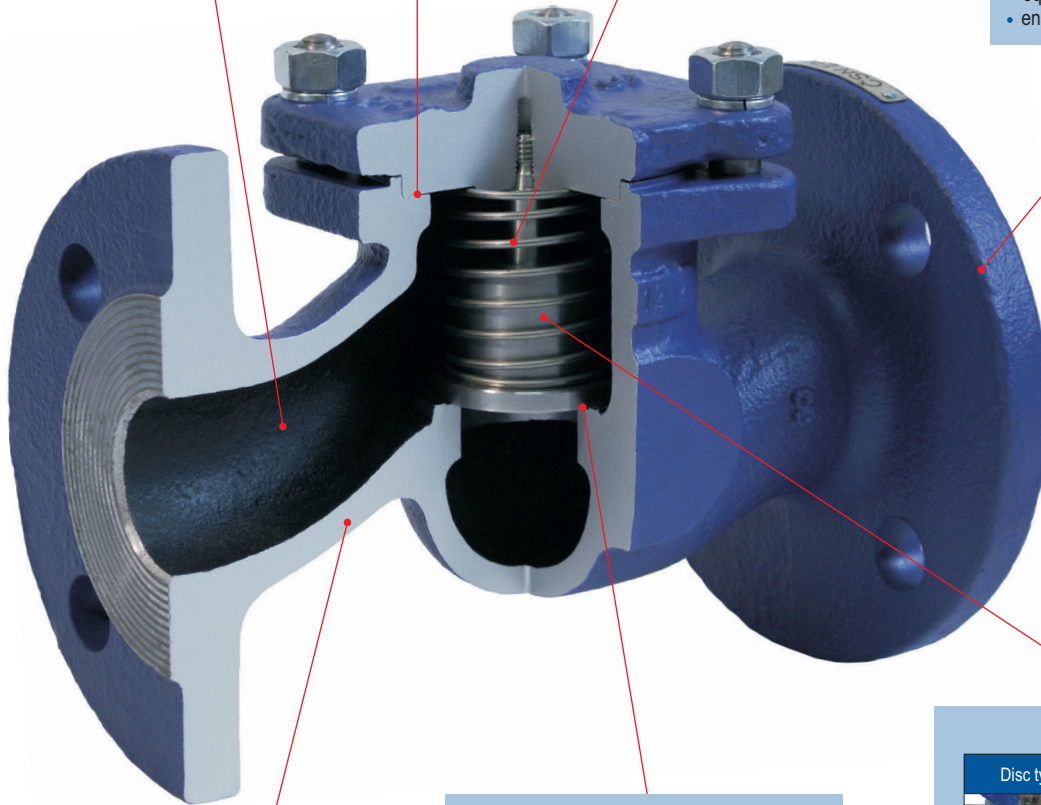
## Closure version

- choice of design - with or without spring
- with spring - ensure better function under condition of vibration of pipeline

## Valve version



- Check valve ZV 2xx P; T
- ensure basic function of backward closure
- Check closing valve ZV 2xx E; F
- equipped with hand wheel and bellows
  - ensures hermetic tightness



**Tightness**  
High tightness of each product is tested by air on the test stand  
Wide choice of seat / plug material (type ZV 2x7 only)

## Plug type







- inner parts made of high quality of stainless steel

## Body material

<b>116</b>	grey cast iron EN-JL1040	2 to 300°C
<b>216</b>	nodular cast iron EN-JS1025	2 to 350°C
<b>22x</b>	cast steel 1.0619	-10 to 400°C
<b>23x</b>	stainless steel 1.4581	-10 to 400°C

## Process media

Water, steam and other common gas and liquid non aggressive media

Type	Series		Description	For the following actuators:
Check valves	ZV 116		Check valve DN 15 to 300, PN 16 and 25	Controlled by process medium flowing through the valve
	ZV 216		Check valve DN 15 to 300, PN 16 and 25	Controlled by process medium flowing through the valve
	ZV 2x6 P; T ZV 2x7 P; T		Check valve DN 15 to 200, PN 16, 25 and 40	Controlled by process medium flowing through the valve
	ZV 2x6 E; F ZV 2x7 E; F		Check closing valve DN 15 to 200, PN 16, 25 and 40	Controlled by process medium flowing through the valve + hand wheel

# Strainers (FP 1x0, FP 2x0)

DN 15 to 400, PN 16, 25, 40,  $t_{\max} = 400^{\circ}\text{C}$ , range of Kvs 5,7 to 2200  $\text{m}^3/\text{h}$

## Range of diameter

DN 15 to 400 cover the most applications

## Loss coefficient

Low loss coefficient of the strainers do not require substantial increase of pump power

## Body material

<b>110</b>	grey cast iron EN-JL1040	0 to 300°C
<b>210</b>	spher. cast iron EN-JS1050	-10 to 350°C
<b>220</b>	cast steel 1.0619	-10 to 400°C
<b>230</b>	stainless steel 1.4581	-10 to 400°C

## Stainless screen

Robust screen made of stainless steel resists to both mechanical and corrosive effect of process medium

## Drainage bolt




Possibility of quick drainage without necessity of bonnet removing

## Magnetic insertion

Possibility of installation of magnetic insertion ensures cleaning medium free of particles and impurities





Type	Series		Description	Material of body and bonnet
Flanged strainers	FP 110		Strainer, flanged DN 15 to 400, PN 16	Grey cast iron EN-JL1040
	FP 210		Strainer, flanged DN 15 to 200, PN 25	Spheroidal cast iron EN-JS1050
	FP 220		Strainer, flanged DN 15 to 200, PN 16, 25 and 40	Cast steel 1.0619
	FP 230		Strainer, flanged DN 15 to 200, PN 16, 25 and 40	Stainless steel 1.4581



## Notes

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## Notes

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## ADDRESS OF FACTORY

LDM, spol. s r.o.  
Litomyšlská 1378  
560 02 Česká Třebová  
Czech Republic

tel.: +420 465 502 511  
fax: +420 465 533 101  
e-mail: [sale@ldm.cz](mailto:sale@ldm.cz)  
<http://www.ldmvalves.com>

## REGIONAL OFFICES



LDM, spol. s r.o.  
Office in Prague  
Podolská 50  
147 01 Praha 4  
Czech Republic

tel.: +420 241 087 360  
fax: +420 241 087 192

LDM, spol. s r.o.  
Office in Ústí nad Labem  
Ladova 2548/38  
400 11  
Ústí nad Labem - Severní Terasa  
Czech Republic

tel.: +420 602 708 257

## SUBSIDIARIES



OOO "LDM Promarmatura"  
Jubilejnyy prospekt,  
dom.6a, of. 601  
141407 Khimki, Moscow Region  
Russian Federation

tel.: +7 495 777 22 38  
tel./fax: +7 495 666 22 12  
e-mail: [inforus@ldmvalves.com](mailto:inforus@ldmvalves.com)

LDM Bratislava s.r.o.  
Mierová 151  
821 05 Bratislava  
Slovakia

tel.: +421 2 43415027-8  
fax: +421 2 43415029  
e-mail: [ldm@ldm.sk](mailto:ldm@ldm.sk)  
<http://www.ldm.sk>

LDM, Polska Sp. z o.o.  
ul. Bednorza 1  
40-384 Katowice  
Poland

tel.: +48 32 730 56 33  
fax: +48 32 730 52 33  
GSM: +48 601 354999  
e-mail: [ldmpolska@ldm.cz](mailto:ldmpolska@ldm.cz)

LDM, Bulgaria, OOD  
z. k. Mladost 1  
bl. 42, fl. 12, ap. 57  
1784 Sofia  
Bulgaria

tel.: +359 2 9746311  
fax: +359 2 9746311  
e-mail: [ldm.bg@ldmvalves.com](mailto:ldm.bg@ldmvalves.com)

LDM Armaturen GmbH  
Wupperweg 21  
51789 Lindlar  
Germany

tel.: +49 2266 440333  
fax: +49 2266 440372  
mobile: +49 177 2960469  
e-mail:  
[ldmarmaturen@ldmvalves.com](mailto:ldmarmaturen@ldmvalves.com)

TOO "LDM"  
Shakirova 33/1, kab. 103  
100012 Karaganda  
Kazakhstan

tel.: +7 7212 566 936  
fax: +7 7212 566 936  
mobile: +7 701 738 36 79  
e-mail: [sale@ldm.kz](mailto:sale@ldm.kz)

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