



**automatic valve**



**CONTROL VALVE  
30 000**

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# GENERALS

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The valves serial "30 000" are designed for a range of general-purpose pneumatic controlled valves. Their application extends over the most various industrial branches: food, textile and chemical industry, wood and by-products, mechanical engineering en metallurgical industry, refrigeration...

The valve serial "30 000" are of simple construction and implement advanced technical solutions. They may handle all usual media within wide temperature and pressure ranges.

In case that construction type would not be adapted, please refer to catalogue chapter dealing with control valves serial "31 000" and "32 000" designed for tougher service conditions.

The valve serial "30 000" of three main parts:

- An actuator
- A valve body
- A moving part unit

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# ACTUATOR

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The spring return rolling diaphragm actuators deliver the power necessary to actuate the valve. According to the valve function, they are "DIRECT", n° 610 or "REVERSE" n°601 mounted.

The essential components of these actuator can be defined as follows:

- **DIAPHRAGM CASE:**

Made-up of a bottom and a cover whose perfectly streamlined inside sharp edges allow a correct rolling of the diaphragm.

- **ROLLING DIAPHRAGM:**

Ensure an almost perfect constancy of its useful surface all along its travel.

- **DIAPHRAGM PLATES:**

Integral with the diaphragm by means of the actuator stem, they prevent all deformations likely to hinder the diaphragm operation

- **SPRING:**

With a geometry and dimensions corresponding to a precise type.

- **ACTUATOR STEM:**

Guided and protected by a protection ring which clears it of all foreign matter when it slides back into the actuator.

- **YOKE:**

Supports the following part:

- "O", "C" signalling plate,
- device identification plate
- hand actuation
- positioner

- **ADJUSTING NUT:**

With reverse threads. It is used to rate the actuator, to support the opening indicator and the positioner actuation finger.

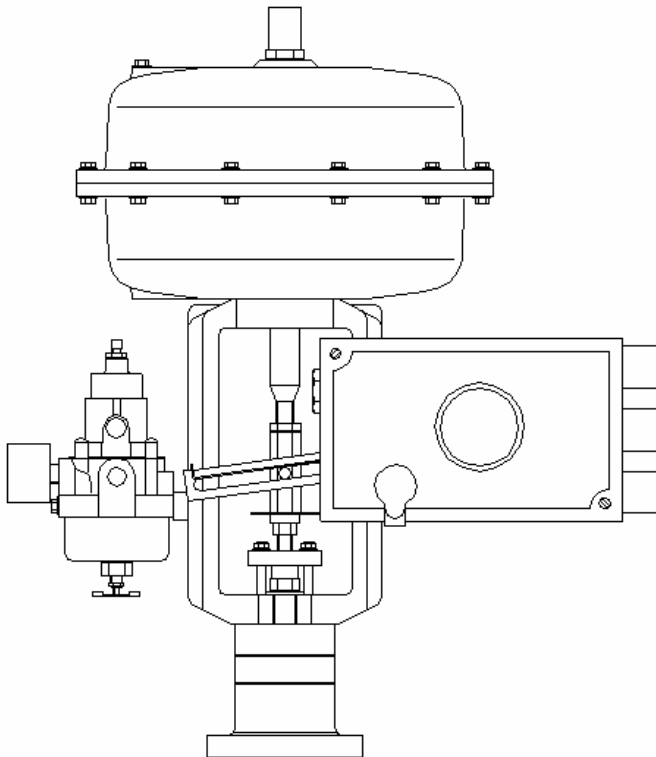
# DIMENSIONS – IDENTIFICATION

CONSTRUCTION		TECHNICAL DATA			
Parts	Material	Diameter	210	280	350
Diaphragm case	Alu AS 10 G	Cross section : mm <sup>2</sup>	190	350	700
Diaphragm plate	Alu AS 10 G	Maximal stroke : mm	20	30	40
Diaphragm	Buna-Nylon 743NYG170	Service stroke : mm	15	25	35
Spring	XC 85 K Steel	Maximal force : daN	760	1050	1400
Joints	Buna PC 851	Maximal pressure : bars	4	3	2
Screws	Class 8/8 Steel	Control signal : mb	210 to 1050		
Yoke	Cast iron FT 25	Air connections	R 1/4		
Actuator stem	Acier Inox: Z 20 C 13	Power fluid	Air		
Indication plates	Aluminium				
Adjusting screw	SS Z 2 CN 18/10				
Stroke indicator	Galvanised steel				

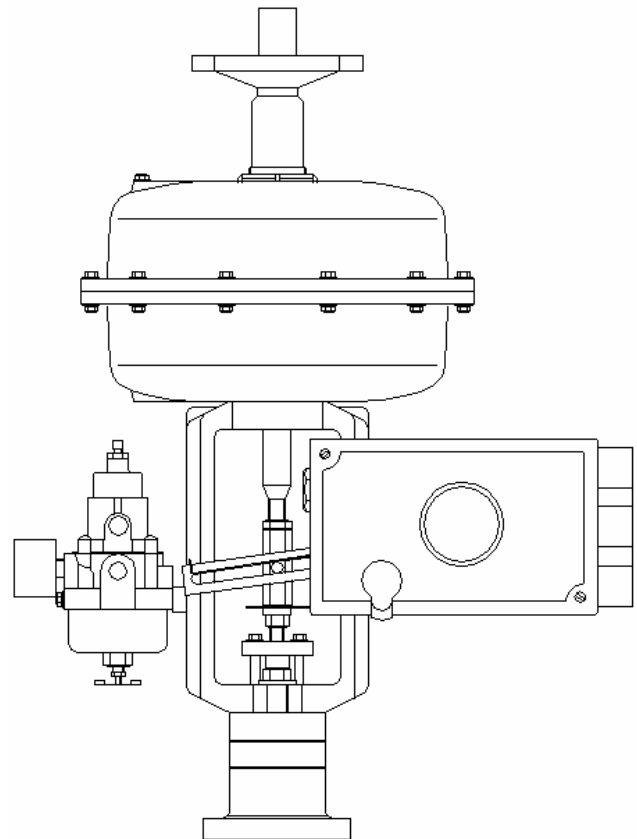
### Fittings

Pneumatic positioner  
 Electro- pneumatic positioner  
 Handwheel actuation  
 3 ways solenoid pilot valve  
 Air pressure filter-reducer.

**NORMAL CONTROL**



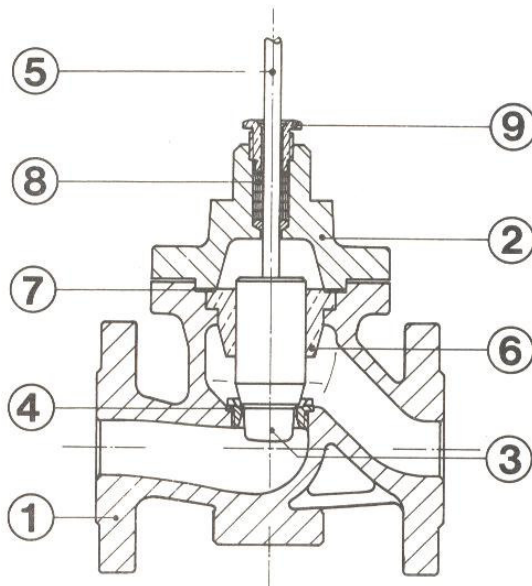
**MANUAL CONTROL**



# DIMENSIONS – IDENTIFICATION

The valve through which flows the control fluid is made of four parts:

- The valve body
- The bonnet
- The plug guide
- The valve trim

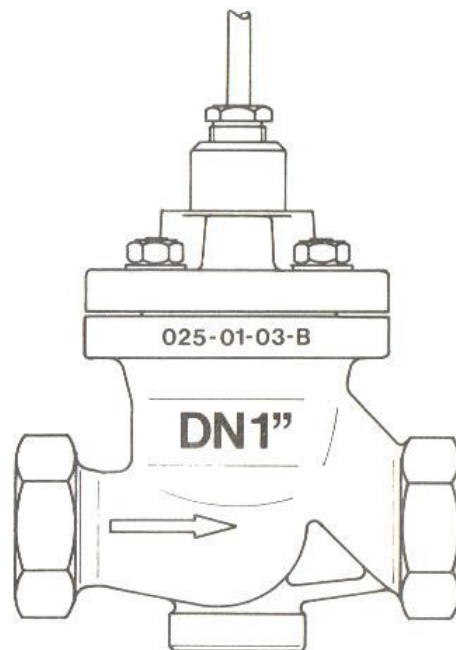
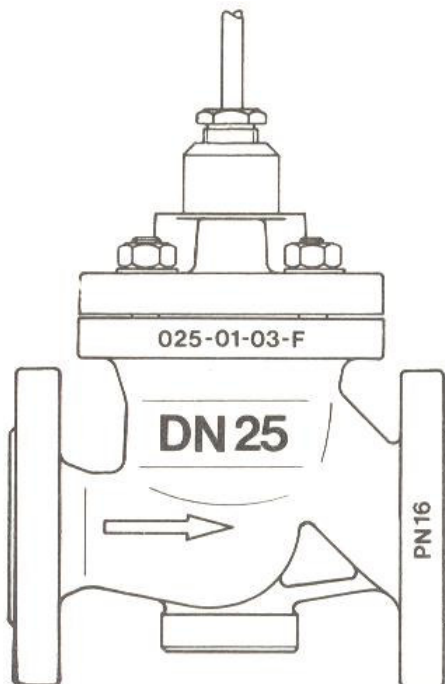


	ÉLÉMENTS	MATÉRIAUX
1	Valve body	Ft25 / FGS / St UE12 / SSteel
2	Bonnet	Ft25 / FGS / St UE12 / SSteel
3	Plug	Stainless steel Z 2 CN 18-10
4	Seat	Stainless steel Z 20 C 18-10
5	Plug stem	Stainless steel Z 2 CN 18-10
6	Plug guide	Brass/SSteel
7	Joint	Asbestos/graphite
8	Packing	PTFE / graphite
9	Packing gland	Brass / SSteel

## VALVE BODY

TECHNICAL DATA								
BODY	DIAMETERS					MATERIALS	NP	
Tapered ends	1/2"	3/4"	1"	1"1/4"	1"1/2"	2"	Brass UE12, FGS 42-12	16
Flanges ends	15	20	25	32	40	50	UE12 / FT25 / FGS / Ac / Inox	16 to 40

The valve bodies' connection can be delivered according to ANSI Standards.



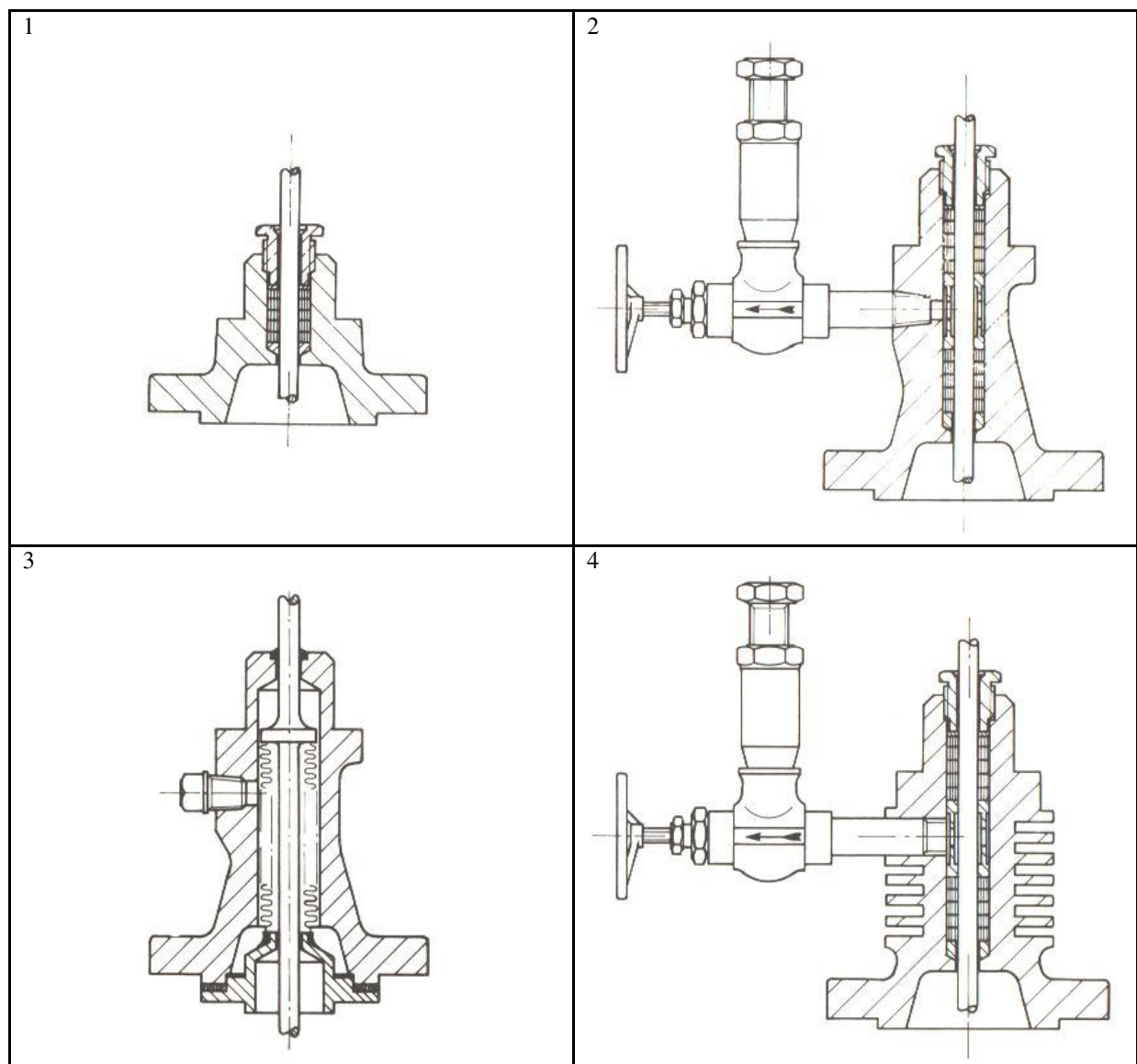
# DIMENSIONS – IDENTIFICATION

## BONNET

The valve bonnet and the stuffing box make a single part. It is also used to assemble the actuator on it with two studs

Four bonnets are available according to valve service conditions.

N°	BONNETS	FLUIDS	T°C	Bars	NOTA
1	Standard	Air, water, steam, fuel...	150	10	General service
2	With extension, greaser and stop valve	All fluids	150 250	40 10	High pressure
3	With cooling extension, greaser and stop valve	All fluids	300	40	High temperature
4	With metallic bellow	All fluids	200	6	Low pressure
S	Special : N°2 + 4 or 3 + 4	All fluids	- 40 to + 300	40	100% tight



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# DIMENSIONS – IDENTIFICATION

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## PACKING

The stuffing box packing is made-up of a stack of split rings with a graphite-backed Teflon base, in the shape of braids or rings in pure PTFE. The assembly of the rings in the stuffing box, their geometry and the surface condition of the sliding plug stem ensure a good tightness of the valve at that level and minimize its working stress.

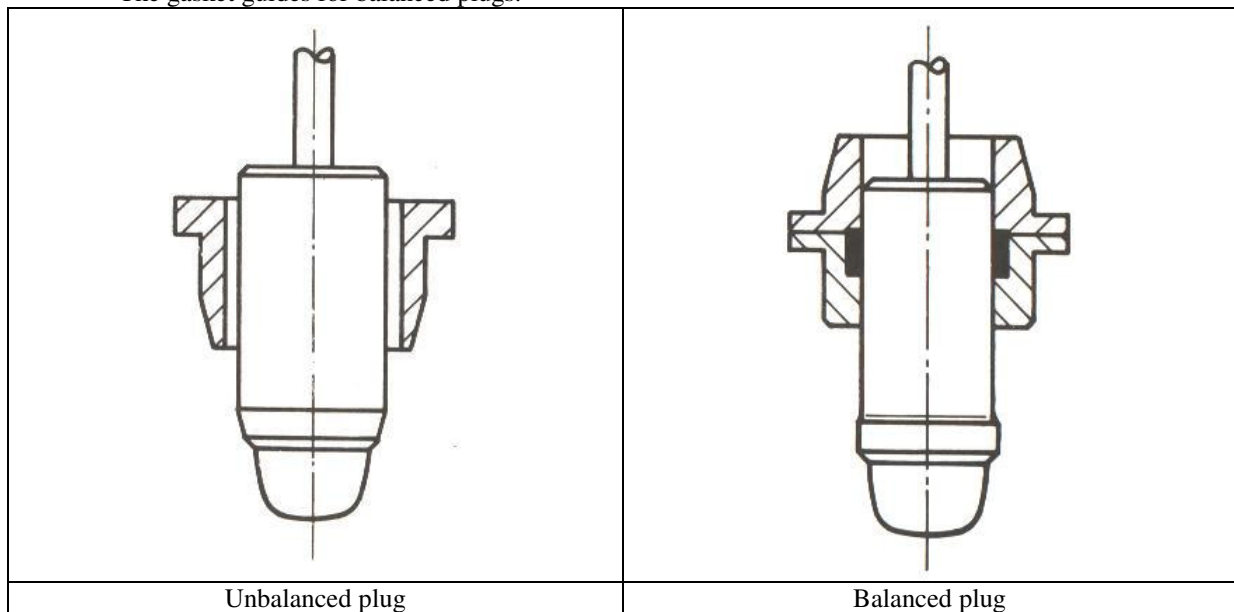
For high temperature PTFE is replaced by graphite asbestos or pure graphite in the shape of rings.

## GUIDES DE CLAPETS

All the valve plugs serial "30 00" are guided. The guides are positioned between the valve body flange and the bonnet and are in perfect alignment with seats. With that arrangement, any deviation of the plug in closing position is avoided, thus ensuring valve tightness.

Two types of guides are used:

- The grooved guides for unbalanced plugs.
- The gasket guides for balanced plugs.



## SEATS

As the media flow through the seats, the latter are permanently subject to a wear. Their profiles and the quality of their support are therefore designed to give the best performances. Their being built in stainless steel of the same grade as that of the plug, except for the balanced valves, gives satisfaction in all cases.

The seats with reduced flow for high pressure or for low flow coefficient valves have a venture shaped profile. They can never be used as plug guides.

## VALVE TRIM

Hereunder is to be understood the unit which directly control the medium flow inside the valve body, including:

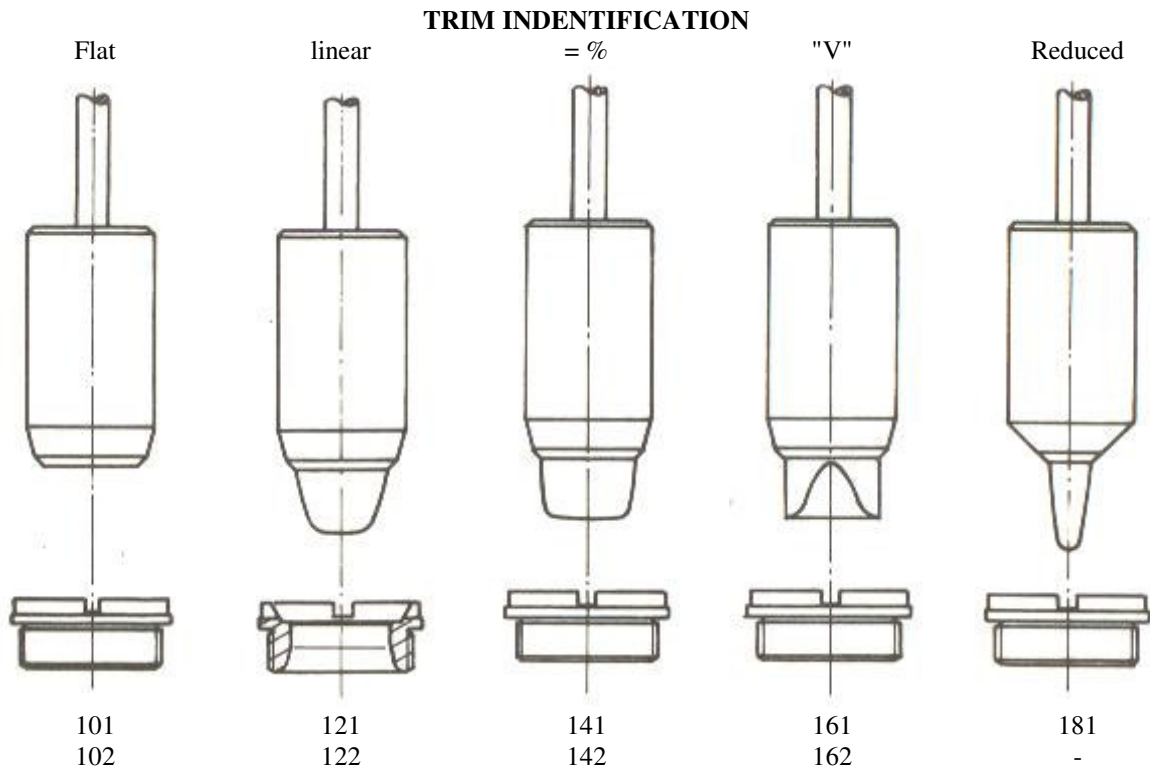
- the valve plug
- the plug stem

In a control valve the plug is an essential part because, together with the seat, it helps the medium flow inside the valve and besides, it modifies the flow according to its position with respect to the seat.

In order to meet various flow requirements, five different plug profiles are proposed in two versions:

- Balanced design for unloaded media and for high pressure drops in the valves.
- Unbalanced design for loaded media and low pressure drops in the valves.

# DIMENSIONS – IDENTIFICATION



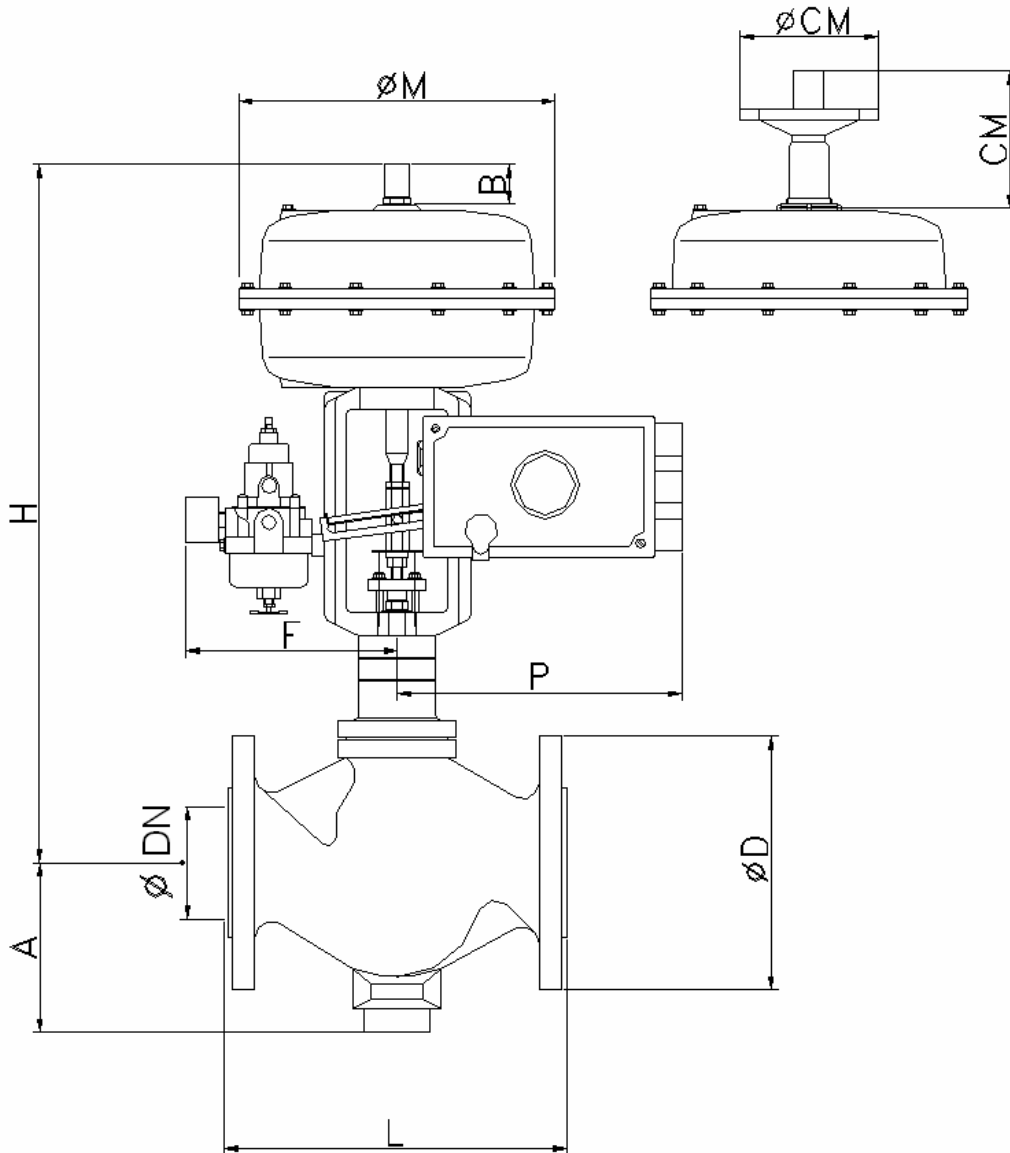
Unbalanced plug	N°	101 – 121 – 141 – 161	Ø Valves : 15 to 20	Ø Seat : 15 to 50
Balanced plug	N°	102 – 122 – 142 – 162	Ø Valves : 20 to 50	Ø Seat : 20 to 50
Reduced plug	N°	181	Ø Valves : 15 to 50	Ø Seat : 4 to 12

## TECHNICAL DATA

VALVES			ACTUATORS						PLUGS		
ND	Seat		210	280	350	210	280	350	101 102	121 – 141 – 161 122 – 142 – 162	181
1/2"	15	15	20	-	-	40	-	-	5	6	1,5  to  5
3/4"	20	20	11	20*	-	40	-	10	8		
1"	25	25	7	13,5*	-	40	-	15	12		
1"1/4	32	32	-	8	15*	-	40	22	18		
1"1/2	40	40	-	5	10*	-	40	35	28		
2"	50	50	-	-	6,5	-	-	40	54	49	
Max ΔP for :			Unbalanced plug			Balanced plug			Cv at 100 % opening		

\* Special assembly

# DIMENSIONS – IDENTIFICATION



ØDN	15	20	25	32	40	50	65	80
D	95	105	115	140	150	165	185	200
L	130	150	160	180	200	230	290	310
ØM	225	225	225	225	225	225	280	350
H	550	550	560	600	620	700	700	950
A	90	90	95	95	100	110	175	175
P	200	200	200	200	200	200	200	220
F	180	180	180	180	180	180	180	190
B	55	55	55	55	55	55	55	55
CM	130	130	130	130	130	130		
ØCM	250	250	250	205	250	175		
weight	18	20	23	24	30	37	68	75