



NeroValves GmbH

Industrial Valves: DIN · API · ASME

Nero double Flange Butterfly Valves with electrical actuator

Nero Butterfly Valves double flanged, double eccentric

Of ductile cast Iron, with travelling - nut type gearbox

The consequence of our experience in manufacture of Butterfly Valves:

- Field - approved design
- Stock of large range of sizes, manufactured in series
- Comprehensive range of patterns
- Specific measuring and test results available
- Double - offset disc
- Profile sealing ring of resilient rubber
- Modular concept

Design:

- Face to face: according to DIN EN 558-1 series 14/ISO 5752-14 (DIN 3202-F4)

Connections:

- Flanges: according DIN EN 1092-2 (DIN 2501)

Choice of various types of surface protection

- Powder epoxy coating with minimum 250-micron thickness
- Coating to customer's requirement

Sizes

- DN150 to DN 2000 / Pressure ratings: PN 6 to PN 40

Working temperatures: 20°C up to + 70°C for liquids

Application:

- Butterfly valves are used for closing & opening flows in pipelines. This valve can be used in water supplies, Dams, water treatment, pumping stations, pipelines, industries, power plants, and irrigation

Operating actuator:

- with handwheel and gearbox
- With electric actuator Auma, Rotork, pneumatic and hydraulic actuating

Standard Types

- Compact body with flange feet .Full circle seating
- Choice of surface protections:
- Internally and externally powder epoxy coated body with solid body seat of stainless steel.
- Self- lubricating shaft bearings
- Positive disc-to-shaft connection
- Special key securing device
- Streamlined disc
- Bi-directional tight shut-off.
- Compression moulded profile ring
- Endless clamping ring,
- Adjustable and removable
- Robust travelling-nut type gearboxes
- Secured stem limit stops.
- Adapted gear ratio
- Universal supplementary equipment based on modular
- Robust, rigid, easy to install
- Tight from both sides (leakage rate, DIN 3230, part 3)
- Corrosion-proof and ruggedized
- Maintenance-free, low operating torques

Subject to alternation

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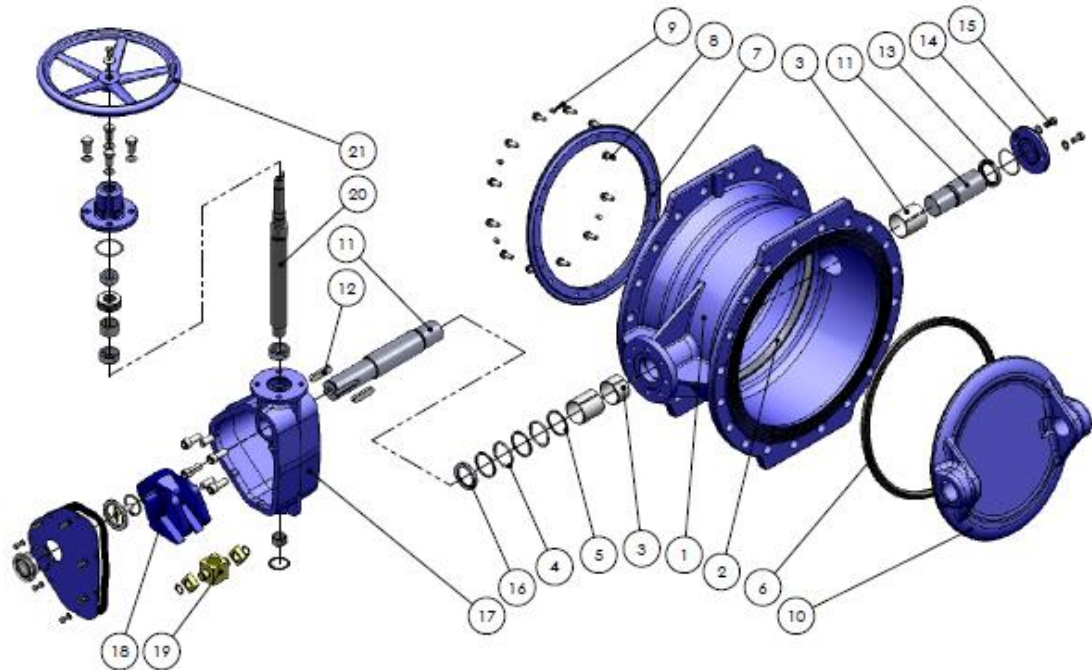
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Nero Butterfly Valves double flanged, double eccentric

Thoroughly developed design



Item	Description	Material
1.	Body	Ductile Iron GGG 400-10/ GGG 500 -7
2.	Seat	Stainless steel X20Cr13 (Austenitic CrNi Steel)
3.	Bearing bush	Steel/tin/ /PTFE
4.	O-ring	NBR / EPDM
5.	Back-up ring	PTFE
6.	Profile ring	NBR / EPDM
7.	Clamping ring	Ductile Iron / or Steel, Epoxy powder Coating
8.	Set screw	Stainless steel
9.	Counter pin	Stainless steel
10.	Disc	Ductile Iron GGG 400-10/ GGG 500 -7
11.	Shaft	Stainless steel 1.4021(Ferritic chrome steel)
12.	Key	Stainless steel
13.	Thrust collar	Glass-Fiber reinforced plastic (TEFLON)
14.	Bearing covers	Ductile Iron GGG 400-10/ GGG 500 -7
15.	Hexagon head cap screw	Stainless steel
16.	Thrust collar	Brass
17.	Gear casing	Cast Iron
18.	Gear frock	Ductile Iron GGG 400-10/ GGG 500 -7
19.	Spindle nut	Hard Bronze
20.	Spindle	Ferritic chrome steel
21.	Handwheel	cast iron

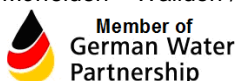
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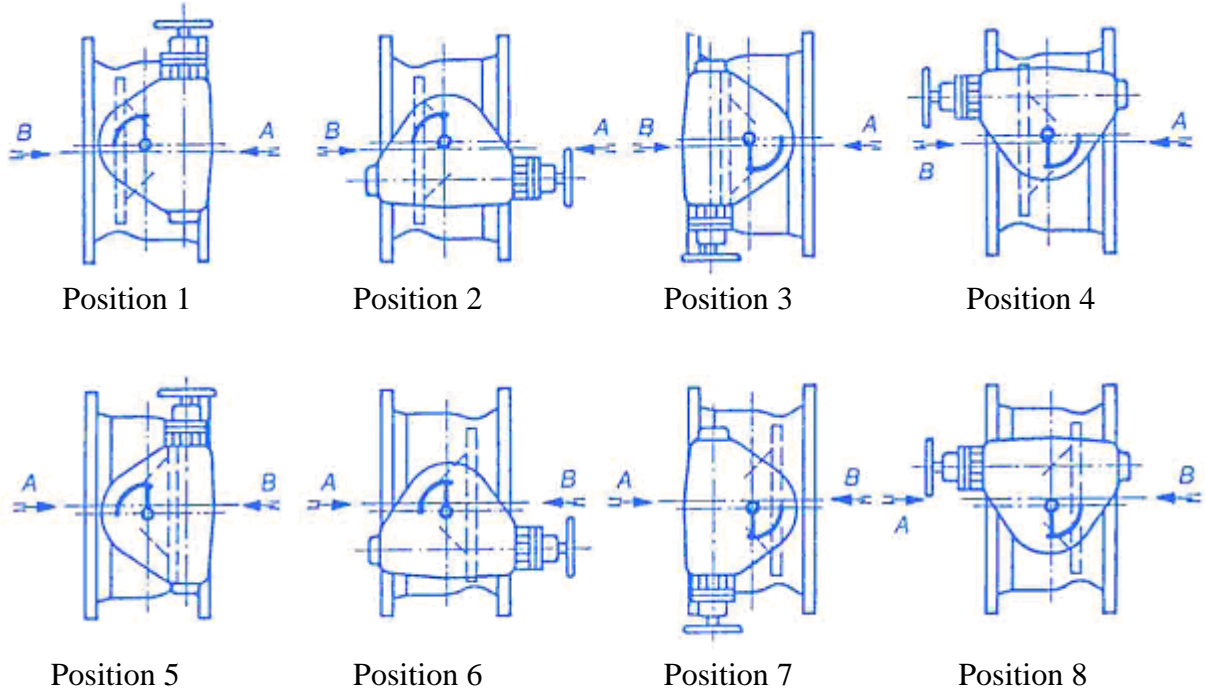
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Gearbox Arrangements



A - direct upstream flow and preferred flow direction

B - indirect upstream flow

Nero Butterfly Valves may be installed in any position.

The different gearbox arrangements also apply to vertical pipelines



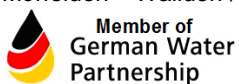
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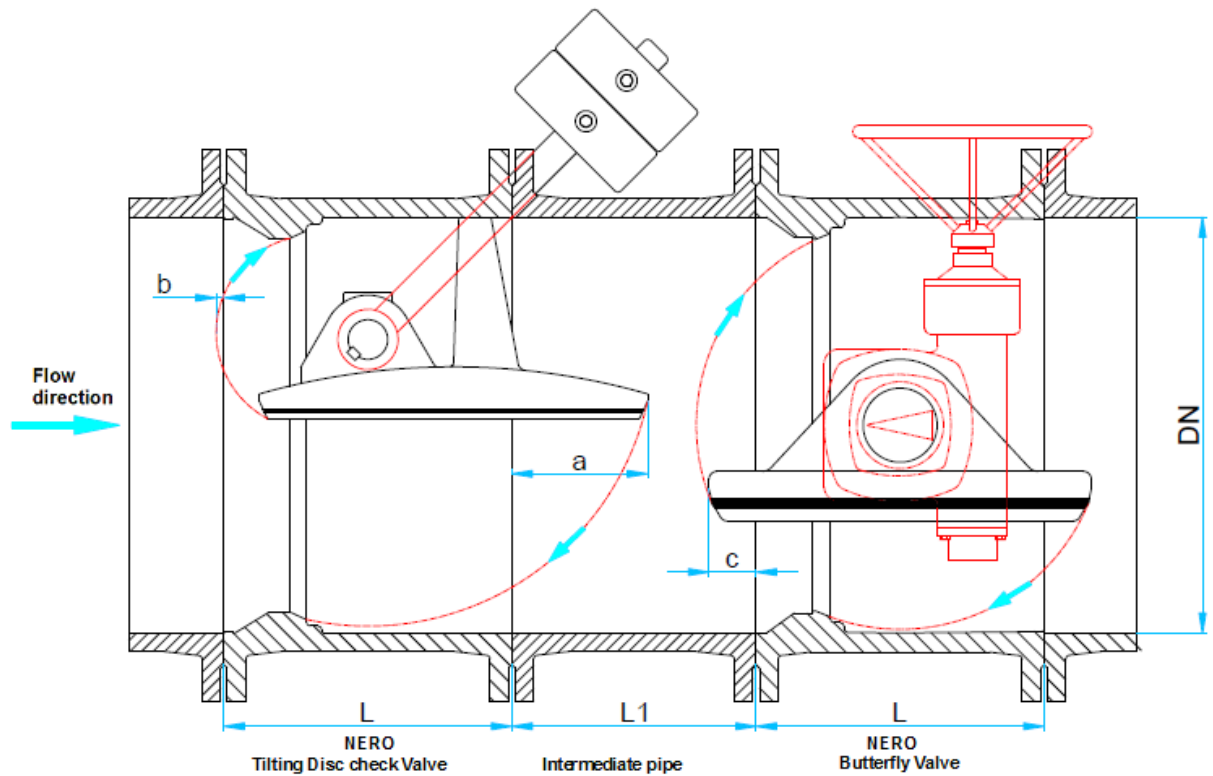


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Nero Non- return Valves, Nero Butterfly Valve

Installation proposal



Dimensions

DN	L	L1	a.	b.	c.	DN	L	L1	a.	b.	c.
150	210					900	510	650	360	30	180
200	230	150	20			1000	550	750	410	40	210
250	250	150	45			1100	590	800	455	55	225
300	270	150	70		9	1200	630	900	515	50	270
350	290	200	95		23	1300	670	1000	560	60	295
400	310	225	118		41	1400	710	1100	615	70	320
450	330	250	140		53	1500	750	1200	660	80	360
500	350	300	165		63	1600	790	1300	705	90	385
600	390	400	215		95	1800	870	1400	815	110	445
700	430	500	260	10	120	2000	950	1600	915	130	505
800	470	600	315	15	150						

Attention:

Installation has to be effected in such a way that the weight-loaded lever of the Nero Non Return check valve is arranged at the left seen in flow direction and the gearbox of the Nero Butterfly valve at the right seen in flow direction to avoid any collision between weight-loaded lever and gearbox.

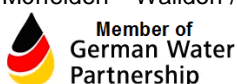
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Nero double Flange Butterfly Valves with electrical actuator

Nero Butterfly Valves double flanged PN 6

Of ductile cast Iron, with travelling – nut type gearbox, with electric actuator Auma

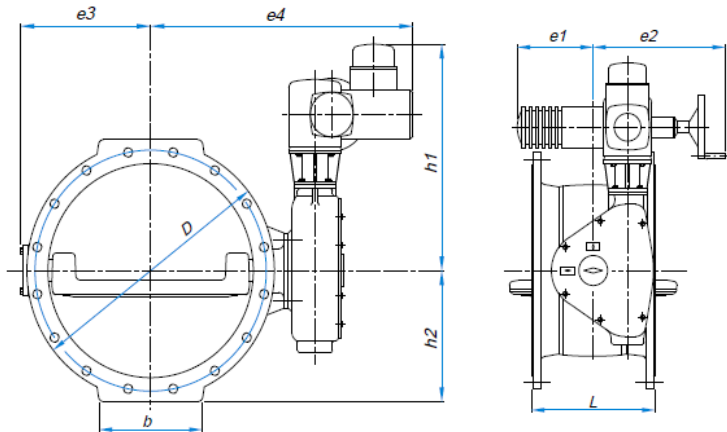
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
1200 -1800	6	9	6,6	6

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve seat: Ductile Iron GGG 400-10/ GGG 500 -7
 Valve shaft: Stainless steel 1.4021
 Stem Nut: Hard Bronze
 Bolts: Stainless steel A2, DIN 276
 Coating: **Epoxy Powder** coating Min. thicknesses 250µm
 All Dimension with intermediate gearbox

Materials/Equipment

Sealing ring: Elastomer: EPDM/NBR
 Sealing of shaft bore: O-ring: EPDM /NBR
 Screw Stem: Ferritic chrome steel
 Gear Casing: Cast Iron
 Bearing bush: Steel/tin/ /PTFE



Dimensions:

DN	L	D	e1	e2	e3	e4	h1	b	h2	Actuator Type	weight Kg
1200	630	1455	84	421	814	1162	847	600	730	SA07.5	2091
1400	710	1675	84	421	924	1282	847	800	845	SA07.5	2761
1600	790	1915	84	421	1059	1107	847	900	975	SA07.5	4141
1800	870	2115	178	535	1219	1512	980	1000	1070	SA14.1	4960
2000	950	2265	305	1281	1400	1640	875	1100	1145	SA14.5	6800

Other dimensions upon request

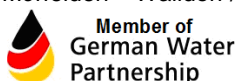
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Nero double Flange Butterfly Valves with electrical actuator

Nero Butterfly Valves double flanged PN 10

Of ductile cast Iron, with travelling - nut type gearbox, with electric actuator Auma

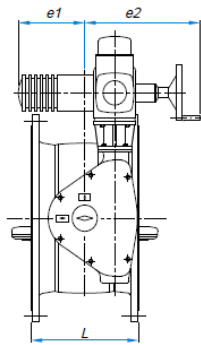
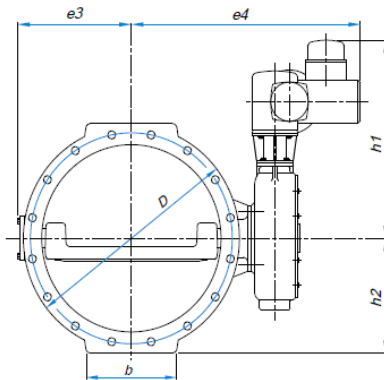
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	10	15	11	10

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve seat: Ductile Iron GGG 400-10/ GGG 500 -7
 Valve shaft: Stainless steel 1.4021
 Stem Nut: Hard Bronze
 Bolts: Stainless steel A2, DIN 276
 Coating: **Epoxy Powder** coating Min. thicknesses 250µm
 From DN 500 and larger with intermediate gearbox

Materials/Equipment

Sealing ring: Elastomer: EPDM/NBR
 Sealing of shaft bore: O-ring: EPDM /NBR
 Screw Stem: Ferritic chrome steel
 Gear Casing: Cast Iron
 Bearing bush: Steel/tin/ /PTFE
 Coating: **Epoxy Powder** coating



Dimensions:

DN	L	D	e1	e2	e3	e4	h1	b	h2	Actuator	weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm		Kg
150	210	285	195	320	151	445	459	144	146	SA07.5	66
200	230	340	195	320	178	479	459	160	175	SA07.5	80
250	250	400	195	320	213	527	459	180	205	SA07.5	95
300	270	455	195	320	238	552	459	200	230	SA07.5	115
350	290	505	185	330	276	619	506	225	260	SA07.5	130
400	310	565	185	330	301	644	506	250	290	SA07.5	170
450	330	615	197	339	336	712	528	250	312	SA07.5	135
500	350	670	249	265	361	727	656	300	340	SA07.5	255
600	390	780	224	290	419	782	690	330	395	SA07.5	345
700	430	895	224	290	490	807	690	400	455	SA07.5	560
800	470	1015	184	321	564	892	765	450	515	SA07.5	730
900	510	1115	220	335	624	962	765	550	562	SA10.1	975
1000	550	1230	184	430	696	1047	847	600	630	SA07.5	1490
1200	630	1455	184	421	814	1162	847	600	730	SA07.5	2080
1400	710	1675	101	435	934	1292	847	800	845	SA10.1	2590
1600	790	1915	41	495	1079	1447	924	900	975	SA10.1	4140
1800	870	2115	178	535	1219	1512	980	1000	1070	SA14.1	4960
2000	950	2325	178	535	1419	1611	1081	1100	1175	SA14.5	6800

Other dimensions upon request

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Nero double Flange Butterfly Valves with electrical actuator

Nero Butterfly Valves double flanged PN 16

Of ductile cast Iron, with travelling - nut type gearbox, with electric actuator Auma

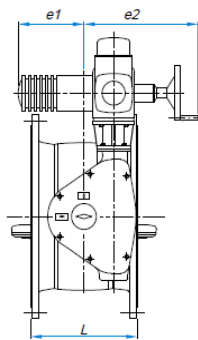
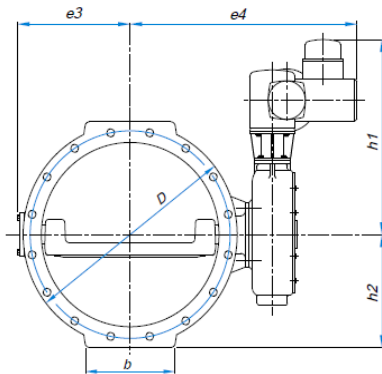
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	16	24	17,6	16

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve seat: Ductile Iron GGG 400-10/ GGG 500 -7
 Valve shaft: Stainless steel 1.4021
 Stem Nut: Hard Bronze
 Bolts: Stainless steel A2, DIN 276
 Coating: **Epoxy Powder** coating Min. thicknesses 250µm
 From DN 500 and larger with intermediate gearbox

Materials/Equipment

Sealing ring: Elastomer: EPDM/NBR
 Sealing of shaft bore: O-ring: EPDM /NBR
 Screw Stem: Ferritic chrome steel
 Gear Casing: Cast Iron
 Bearing bush: Steel/tin/ /PTFE



Dimensions:

DN	L	D	e1	e2	e3	e4	h1	b	h2	Actuator Type	weight Kg
150	210	285	195	320	151	445	459	144	146	SA07.5	66
200	230	340	195	320	178	497	459	160	175	SA07.5	80
250	250	400	195	320	213	527	459	180	205	SA07.5	95
300	270	455	185	330	251	594	506	200	230	SA07.5	140
350	290	520	197	339	291	667	528	225	270	SA10.1	180
400	310	580	197	339	316	682	528	250	295	SA10.1	220
450	330	640	224	290	361	712	690	250	325	SA10.1	280
500	350	715	224	290	391	747	690	300	360	SA07.5	350
600	390	840	224	290	448	807	690	330	425	SA07.5	481
700	430	910	201	335	524	862	765	400	460	SA10.1	480
800	470	1025	201	335	594	932	765	450	520	SA10.1	708
900	510	1125	84	430	669	1022	849	550	570	SA07.5	1420
1000	550	1255	101	435	734	1092	849	600	635	SA10.1	1760
1200	630	1485	41	495	889	1227	924	700	750	SA10.1	2780
1400	710	1685	178	535	979	1380	890	800	850	SA14.1	3800
1600	790	1930	178	535	1101	1379	980	900	975	SA14.1	6350
1800	870	2130	234	749	1370	1665	1057	1000	1085	SA14.1	7550
2000	950	2265	234	749	1570	1750	1057	1100	1145	SA16.1	8550

Other dimensions upon request

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Nero double Flange Butterfly Valves with electrical actuator

Nero Butterfly Valves double flanged PN 25

Of ductile cast Iron, with travelling - nut type gearbox, with electric actuator Auma

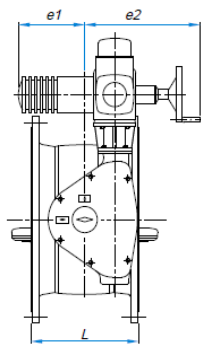
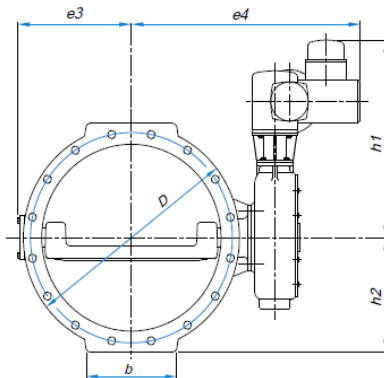
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	25	37,5	27,5	25

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve seat: Ductile Iron GGG 400-10/ GGG 500 -7
 Valve shaft: Stainless steel 1.4021
 Stem Nut: Hard Bronze
 Bolts: Stainless steel A2, DIN 276
 Coating: **Epoxy Powder** coating Min. thicknesses 250µm
 From DN 500 and larger with intermediate gearbox

Materials/Equipment

Sealing ring: Elastomer: EPDM/NBR
 Sealing of shaft bore: O-ring: EPDM /NBR
 Screw Stem: Ferritic chrome steel
 Gear Casing: Cast Iron
 Bearing bush: Steel/tin/ /PTFE



Dimensions:

DN	L	D	e1	e2	e3	e4	h1	b	h2	Actuator Type	weight Kg
150	210	300	185	319	198	467	459	150	155	Sa07.5	85
200	230	360	185	330	227	514	506	160	185	SA07.5	115
250	250	425	185	330	257	544	506	180	215	SA07.5	130
300	270	485	197	341	324	637	528	200	245	SA10.1	200
350	290	555	249	266	354	657	656	225	280	SA07.5	250
400	310	620	224	291	385	702	690	250	315	SA07.5	340
450	330	670	224	290	395	722	690	250	340	SA10.1	455
500	350	730	201	335	444	782	765	300	370	SA10.1	630
600	390	845	201	335	494	832	765	330	425	SA10.1	760
700	430	960	101	435	574	932	849	400	485	SA10.1	1215
800	470	1085	101	435	634	992	849	450	550	SA10.1	1390
900	510	1185	41	495	709	1077	926	550	600	SA10.1	1870
1000	550	1320	41	495	779	1152	924	600	665	SA10.1	2400
1200	630	1530	178	535	889	1181	980	700	780	SA14.1	3540
1400	900	1755	234	479	982	1420	1057	800	885	SA14.1	4500
1600	790	1975	234	479	1109	1575	1137	900	1000	SA14.1	8040

Other dimensions upon request

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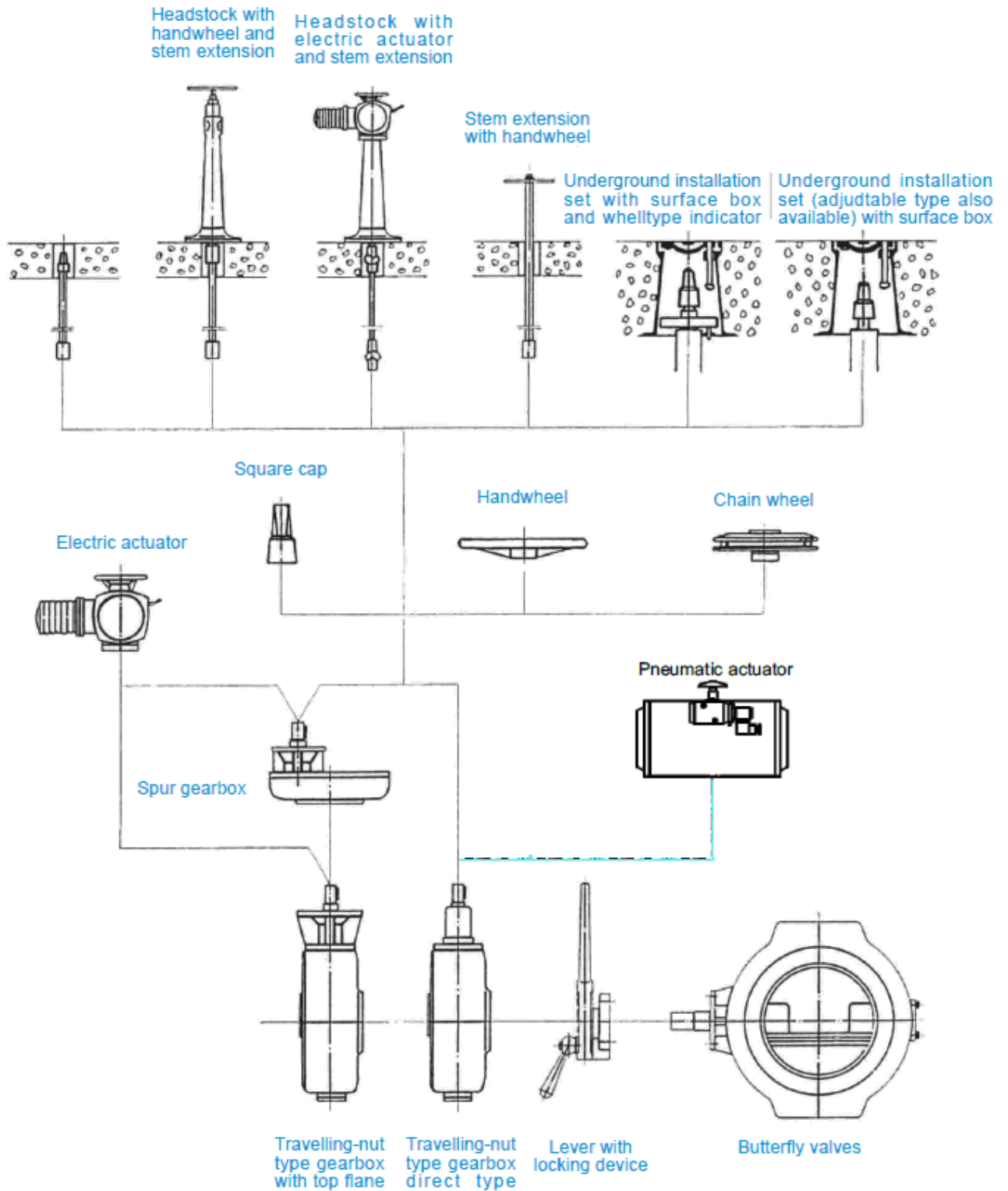


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Choice of Operating Gear for Nero Butterfly valves



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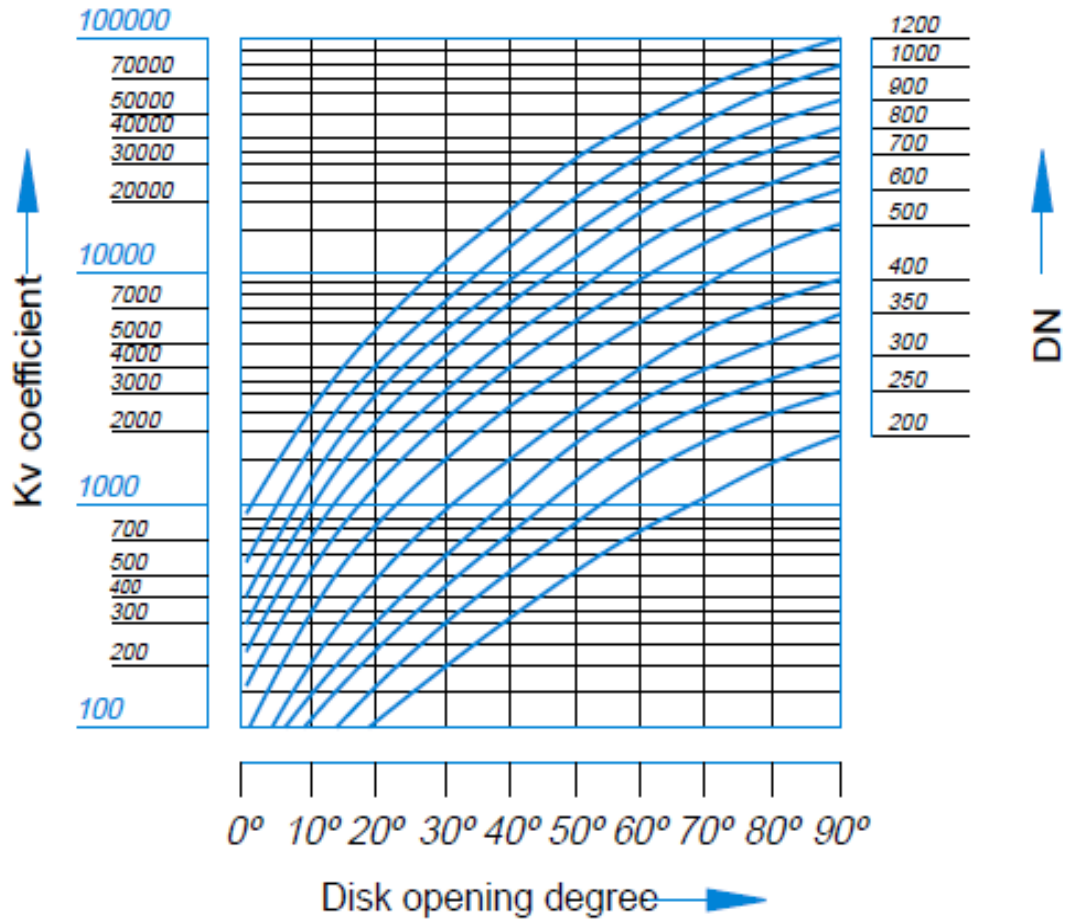


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Nero Butterfly Valve diagram for the calculation of flow resistances



DN	□	DN	□	DN	□
200	0.70	400	0.60	800	0.45
250	0.67	500	0.55	900	0.42
300	0.65	600	0.50	1000	0.40
350	0.62	700	0.47	1200	0.35

□ **Resistance coefficients with the Valve open**

The K v coefficient indicates the water flow retain in m³/ hour flowing through the valve at a temperature comprised between 5°C and 30°C with a flow resistance of 1 bar at a particular opening degree

Flow resistance calculation: $\Delta p = \gamma \left(\frac{Q}{K_v} \right)^2 \ln \text{Kp/cm}^2$

Flow rate calculation: $Q = K_v \sqrt{\frac{\Delta p}{\gamma}} \text{ in m}^3/\text{h}$
 $Q = \text{m}^3/\text{h} \quad \Delta p = \text{Kp/cm}^2 \quad \gamma = \text{g/cm}^3$

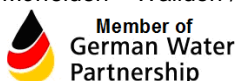
Special executions
 Upon request, extension spindle for laying underground.

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