



NeroValves GmbH

Industrial Valves: DIN - API - ASME

Nero double Flange Butterfly valves with Gearbox and Handwheel

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 – 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:

- 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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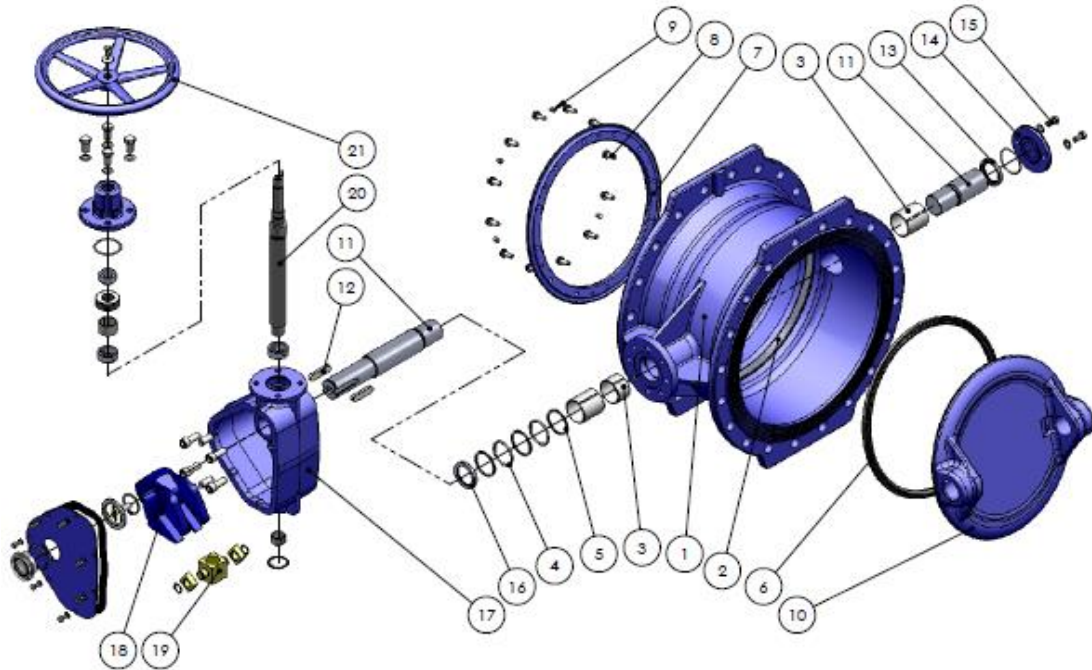
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Nero Butterfly Valves double flanged double eccentric

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

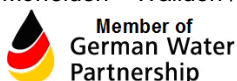
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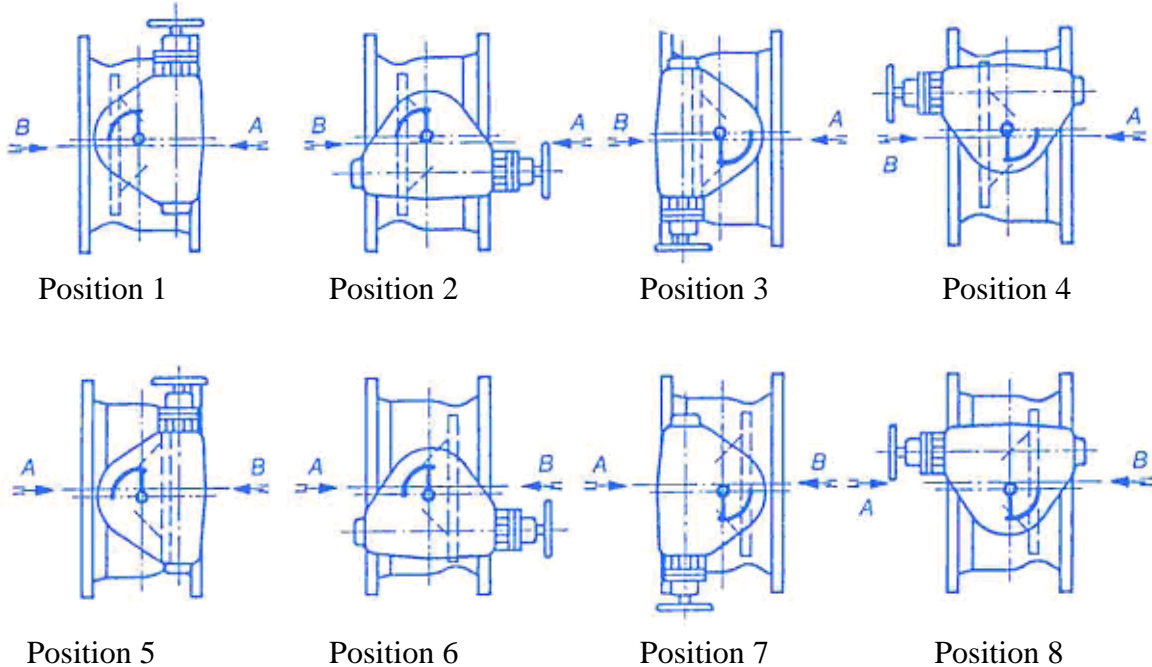


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Industrial Valves: DIN · API · ASME

Nero double Flange Butterfly valves with Gearbox and Handwheel

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

The disc is closed by turning the handwheel in clockwise direction



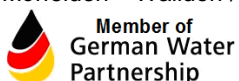
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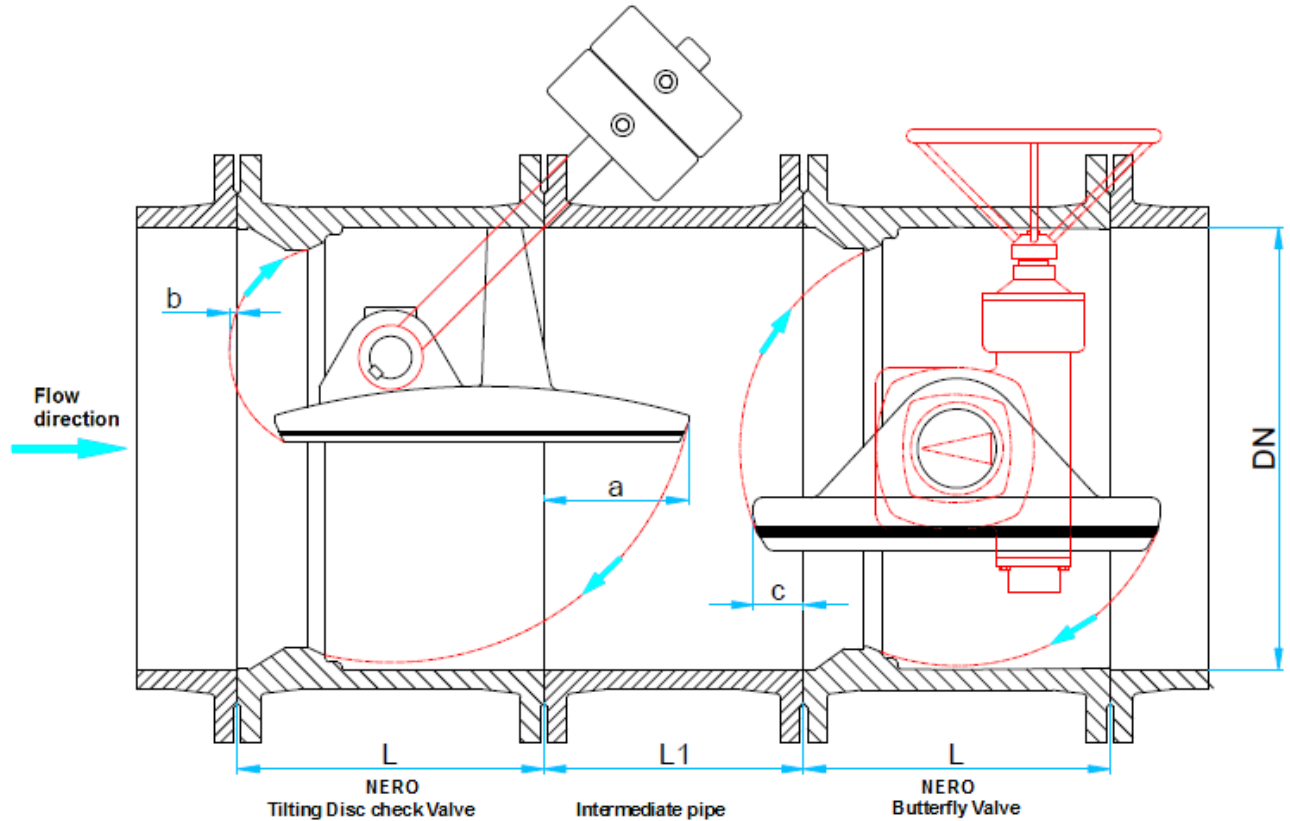
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**Nero Non returns Valves, Nero Butterfly Valve
Installation proposal**



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.

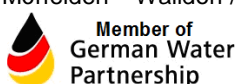
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Nero double Flange Butterfly valves with Gearbox and Handwheel

Nero Butterfly Valves double flanged PN 6

Of ductile cast Iron, with travelling - nut type gearbox and Handwheel

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

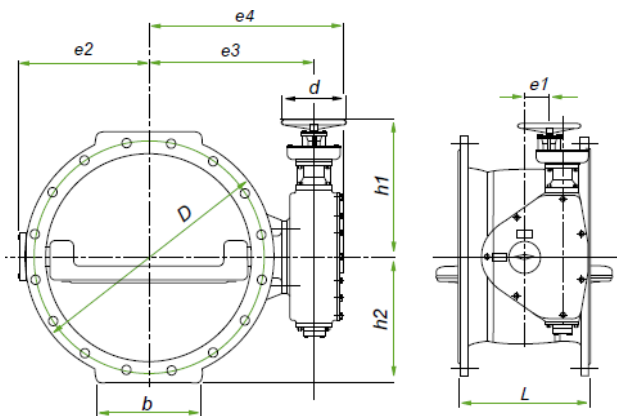
Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve Disc: 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 250µ

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

All Dimensions with intermediate gearbox



Dimensions:

DN	L	D	d	e1	e2	e3	e4	h1	b	h2	Turns	weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Open/close	Kg
1200	630	1405	360	181	814	925	1073	663	600	730	228	2070
1400	710	1630	360	181	934	1045	1193	663	800	845	228	2740
1600	790	1830	360	181	1059	1170	1318	663	900	975	284	4120
1800	870	2045	360	207	1219	1226	1513	771	1000	1070	335	5500
2000	950	2265	400	305	1281	1400	1640	875	1100	1145	425	6500

Other dimensions upon request

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Nero double Flange Butterfly valves with Gearbox and Handwheel

Nero Butterfly Valves double flanged PN 10

Of ductile cast Iron, with travelling - nut type gearbox and Handwheel

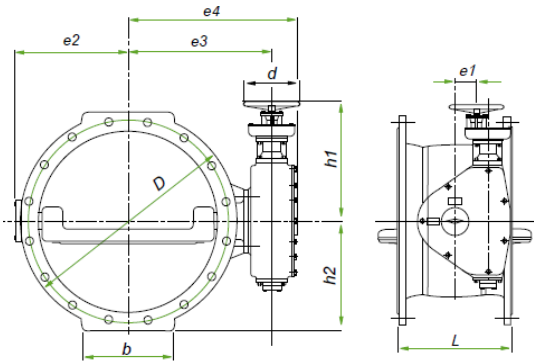
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	10	15	11	10

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve Disc: 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	d	e1	e2	e3	e4	h1	b	h2	Turns	weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Open/close	Kg
150	210	285	200	70	151	226	280	268	144	146	28	46
200	230	340	200	70	178	260	314	268	160	175	28	60
250	250	400	200	70	213	290	344	268	180	205	28	75
300	270	455	200	70	238	315	369	268	200	230	28	95
350	290	505	250	80	276	382	457	316	225	260	27	115
400	310	565	250	80	301	407	482	328	250	290	27	150
450	330	615	360	85	336	465	554	334	250	312	29	220
500	350	670	360	85	361	490	579	342	300	340	29	240
600	390	780	360	110	419	545	634	379	330	395	37	330
700	430	895	250	141	490	570	659	504	400	455	148	540
800	470	1015	500	150	564	655	755	484	450	515	150	720
900	510	1115	250	181	624	715	815	579	550	562	200	950
1000	550	1230	250	181	696	810	953	665	600	630	228	1470
1100	590	1340	360	181	797	885	985	677	630	680	228	1675
1200	630	1455	360	181	814	925	1073	683	630	730	228	2060
1400	710	1675	360	181	934	1045	1193	715	800	845	228	2570
1600	790	1915	360	241	1079	1200	1383	738	900	975	284	4120
1800	870	2115	490	241	1219	1226	1513	771	1000	1070	355	4920
2000	950	2325	500	300	1317	1465	1698	825	1100	1170	425	6750

Other dimensions upon request

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Nero double Flange Butterfly valves with Gearbox and Handwheel

Nero Butterfly Valves double flanged PN 16

Of ductile cast Iron, with travelling – nut type gearbox and Handwheel

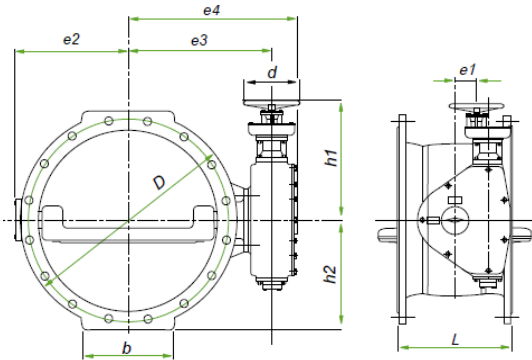
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	16	24	17,6	16

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve Disc: 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	d	e1	e2	e3	e4	h1	b	h2	Turns	weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Open/close	Kg
150	210	285	200	70	151	226	280	268	144	146	28	46
200	230	340	200	70	178	260	314	268	160	175	28	60
250	250	400	200	70	213	290	344	268	180	205	28	75
300	270	455	250	80	251	357	432	328	200	230	28	115
350	290	520	360	85	291	420	509	342	225	270	29	160
400	310	580	360	85	316	435	524	342	250	295	29	200
450	330	640	360	110	361	475	564	381	250	325	37	255
500	350	715	250	141	391	510	599	504	300	360	148	330
600	390	840	250	141	448	570	659	504	330	425	148	460
700	430	910	250	181	524	615	715	579	400	460	200	680
800	470	1025	250	181	594	685	785	579	450	520	200	900
900	510	1125	360	181	669	785	933	665	550	570	228	1400
1000	550	1255	360	181	734	845	993	665	600	635	228	1740
1100	590	1355	360	181	810	880	1050	688	650	685	284	1960
1200	630	1485	360	241	889	980	1163	738	700	750	284	2760
1400	710	1685	490	241	979	1095	1278	771	800	850	355	3660
1600	790	1930	490	265	1101	1215	1398	771	900	975	355	6300
1800	870	2130	490	265	1219	1370	1630	851	100	1085	365	7500
2000	950	2345	500	315	1335	1490	1725	1183	1100	1185	432	7850

Other dimensions upon request

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Nero double Flange Butterfly valves with Gearbox and Handwheel

Nero Butterfly Valves double flanged PN 25

Of ductile cast Iron, with travelling – nut type gearbox and Handwheel

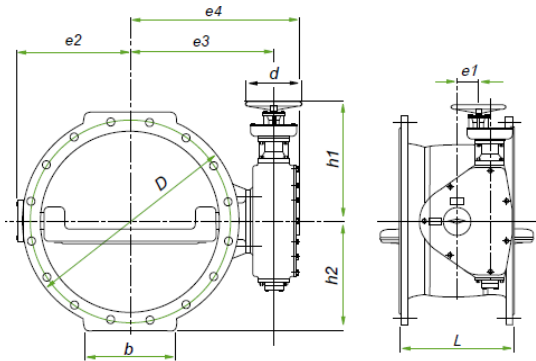
Hydrostatic test pressure according to DINEN 12266-1				
Range of application		Water		
Size	Pressure rating	Hydro test pressure in bars For		Maximal Working pressure in bars
DN	PN	Body	Seat	at 70°C
150 - 2000	25	37,5	27,5	25

Materials/Equipment

Body: Ductile Iron GGG 400-10/ GGG 500 -7
 Body seat: Stainless steel X20Cr13
 Valve Disc: 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	d	e1	e2	e3	e4	h1	b	h2	Turns	weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Open/close	Kg
150	210	300	250	63	194	243	312	297	150	157	27	66
200	230	360	250	80	227	277	352	328	185	185	27	95
250	250	425	250	80	257	307	382	328	215	215	27	110
300	270	485	360	85	324	390	479	342	245	245	29	180
350	290	555	360	85	354	420	509	342	280	280	29	235
400	310	620	360	110	385	465	554	379	315	315	37	325
450	330	670	250	41	395	485	574	504	340	340	148	430
500	350	730	250	81	444	535	635	579	370	370	200	620
600	390	845	250	81	494	585	685	579	425	425	200	740
700	430	960	360	181	574	685	833	665	485	485	228	1200
800	470	1085	360	181	634	745	893	665	550	550	228	1370
900	510	1185	360	241	709	830	1013	740	600	600	284	1850
1000	550	1320	360	241	779	905	1088	740	665	665	284	2380
1100	590	1420	400	241	810	925	1088	755	680	695	325	2700
1200	630	1530	490	255	889	1000	1183	771	700	780	355	3500
1400	710	1755	490	265	982	1135	1345	851	800	885	365	4460
1600	790	1975	490	265	1109	1290	1550	931	900	1000	425	8000
1800	870	2195	490	280	1224	1405	1665	931	1000	1115	425	8900

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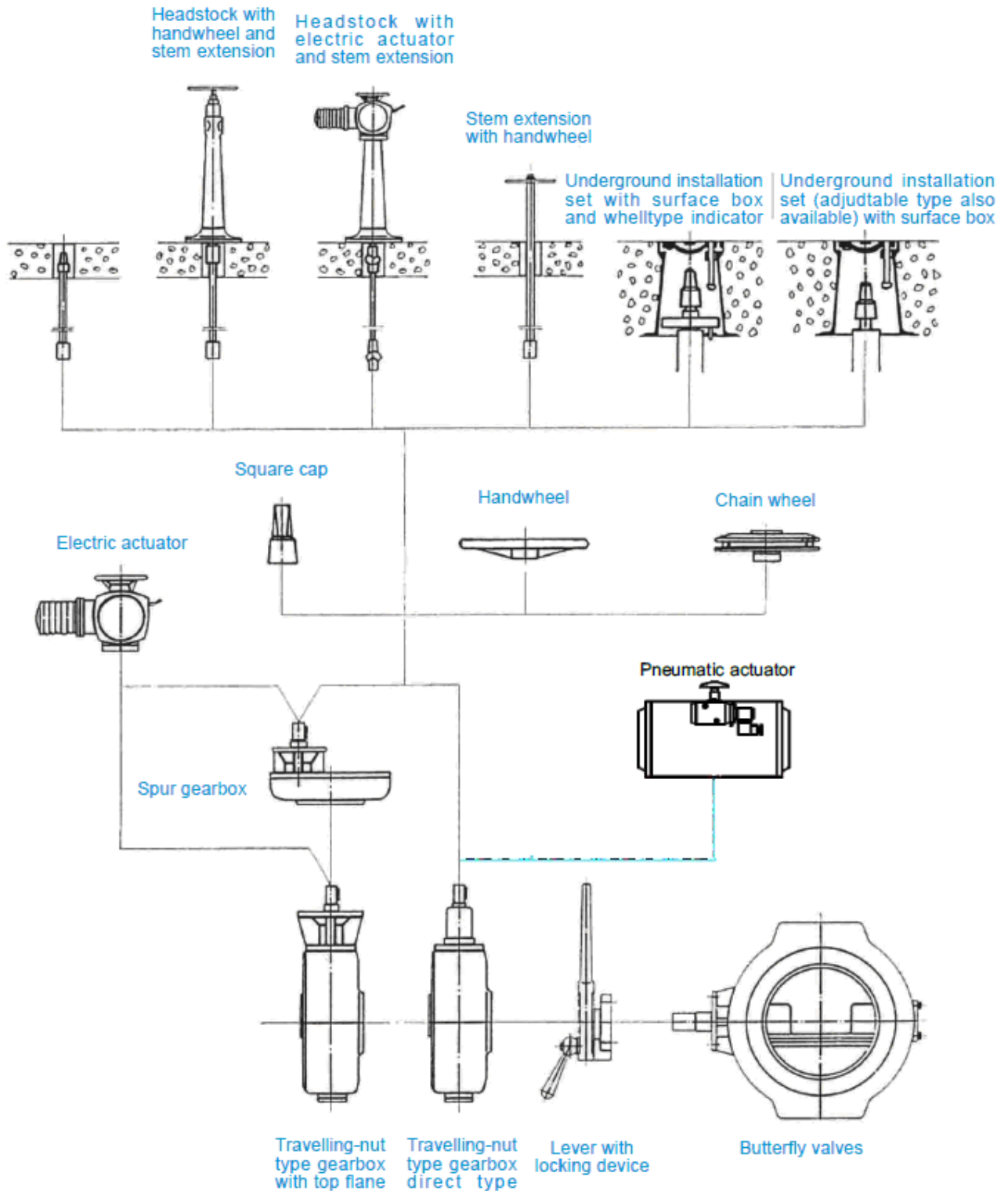


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Choice of Operating Gear for Nero Butterfly valves



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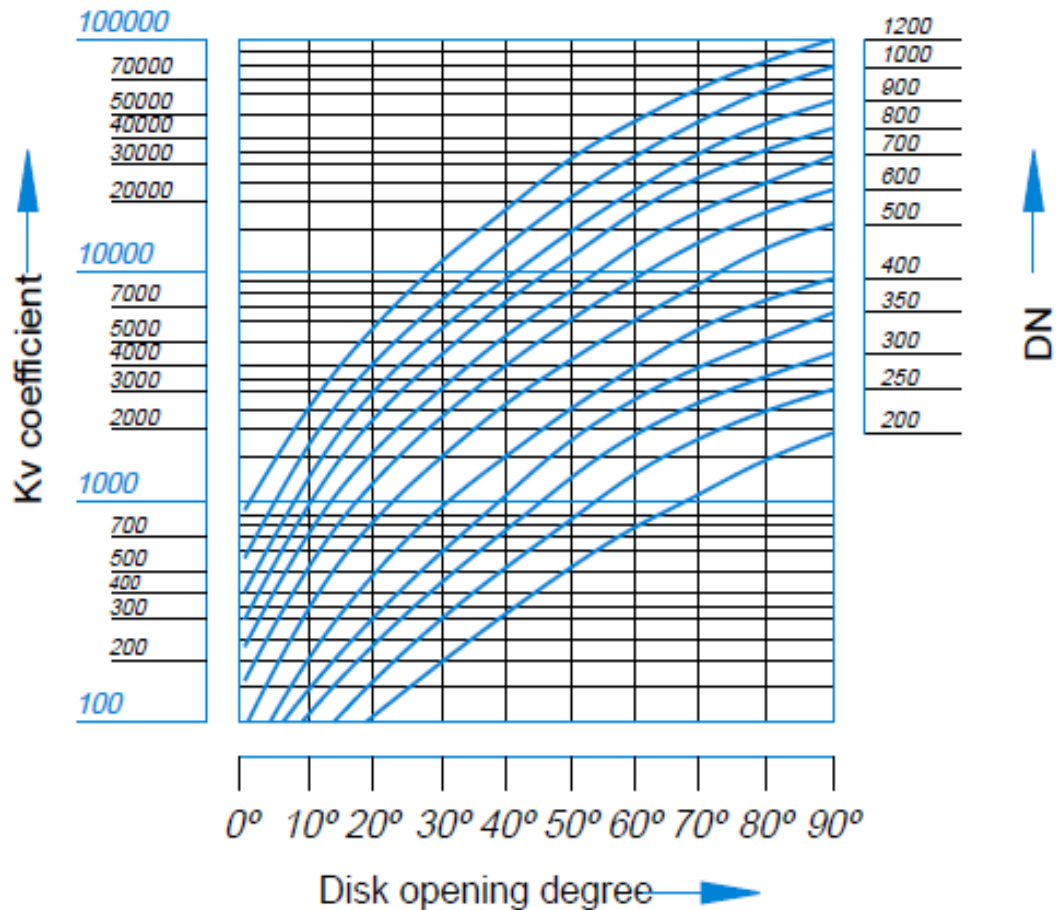


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Nero Butterfly diagram for the calculation of flow resistances



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:

$$\Delta p = y \left(\frac{Q}{K_v} \right)^2 \ln Kp/cm^2$$

Flow rate calculation:

$$Q = K_v \sqrt{\frac{\Delta p}{Y}} \text{ in } m^3/h$$

$$Q = m^3/h \quad \Delta p = Kp/cm^2 \quad y = g/cm^2$$

Special executions
Upon request, extension spindle
for laying underground.

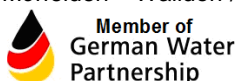
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