DELTA VALVES

Edition 10 '20

Lubricated Plug Valves.

DELTA VALVES

mx ” x c x zfifl b y fl zx ”

b y flzx ”“ f à mx ”

VALVOLE A MASCHIO LUBRIFICATE
LUBRICATED PLUG VALVES

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S z fl 6

Allo scopo di rispettare le specifiche internazionali e di venire incontro al meglio alle esigenze di vari clienti, Delta Valves sta producendo valvole a maschio lubrificate adatte a coprire la più ampia gamma di applicazioni.
Al momento dell'ordine, è quindi molto importante evidenziare la valvola base richiesta, prendendo in considerazione la seguente tipologia di prodotti:

To the purpose of better meeting with Int'l specificatins and various customers' needs, Delta Valves is producing lubricated plug valves suitable to cover the widest range of applications.
When ordering, it is consequently very important to evidence the basic valve required taking into consideration the following selection of products:

U ″z fl fli x ″x ″6

- Valvole a maschio lubrificate, tipo standard
- Valvole a maschio rovesciato, lubrificate a pressione bilanciata. ad alta prestazione
- Valvole a maschio rovesciato, lubrificate a pressione bilanciata, ad alta prestazione Doppio maschio e Double block & bleed.

i x ″x ″ U ″z fl 6

- Lubricated Standard type Plug Valves.
- Lubricated Inverted Taper Pressure Balanced High Performance Plug Valves.
- Lubricated Inverted Taper Pressure balanced High Performance Double Plug.Double Block & Bleed plug Valves

U ″z fl fli ″zfl x fl6

- Classe 150 - 300 e 600, valvole a maschio lubrificate modello a 3 vie.
- Classe 150 valvole a maschio lubrificate modello a 4 vie
- Classe 150 - 300 - 600 valvole a maschio lubrificate e incamiciate.

i ″zfl x U ″z fl 6

- Class 150 - 300 and 600 threeways transflow pattern Lubricated Plug Valves
- Class 150 four ways transflow Pattern lubricated Plug Valves.
- Class 150 - 300 - 600 Full jacketed Lubricated Plug Valves.

S ″ fl fl

- Classe 150 - 300 - 400 - 600 - 800 - 900 - 1500 - 2500.
- Valvole a maschio lubrificate con connessioni S.W. o NPT o SW x NPT.

S ″ flff″

- Class 150 - 300 - 400 - 600 - 800 - 900 - 1500 - 2500.
- Lubricated Plug Valves with S.W. or NPT or SW x NPT end connections

c x " fk f6

Tutti i prodotti Delta Valves sono normalmente disponibili in:

Qi kc Q98Dd 0Ui USl qYe dUUi khUc YkQ/df k e in VYde QbbQ kQWbYQ A//1 QA9E n SR e n SS 5Se hf e 7Se f UhSXYe 6

- Acciaio al carbonio standard con contenuto di carbonio MAX di 0.22% e destinato ad uso generico per temperature che vanno da - 26 °C fino a + 232 °C (- 20 °F ÷ + 450 °F).
  Anche gli otturatori (maschi) sono normalmente in acciaio al carbonio, temprati.

Qi kc QBDAbSR e hbSS Se hf e 7Se f UhSXYe 6

- Servizio a bassa temperatura.
  Adatto da - 46 °C a + 232 °C (- 50 ° F ÷ 450 ° F). Normalmente utilizzato per temperature inferiori allo zero fino a - 46 °C. Deve avere un valore medio minimo di resilienza (Charpy a "V") di 21 J.

Q98DQ98Dd 5QA9E n SR 5QBDAbSR f Uh dQSUc h6896FD6

- Nel Gas naturale è possibile trovare piccole quantità di idrogeno solforato (H2S) che possono causare corrosione. Questo fenomeno è normalmente noto come "infragilimento da idrogeno solforato" o "tensocorrosione da solfuro".
  L'assorbimento di idrogeno da parte dell'Acciaio provoca riduzione di duttilità che, sommata ad altri elementi di tensione indotti dal servizio stesso, può dare origine al cedimento del componente forgiato o fuso.
  Acciai con carichi di snervamento superiori a 621 MPa (90.000 psi) o con una durezza superiore a 22 Rock - well (235 Brinell) può essere soggetto a tensocorrosio ne da solfuri "Sulfide Stress Cracking".
  Nelle costruzioni NACE MR.01.75, Delta Valves controlla attentamente che tutti i materiali dei compo nenti di base siano adeguatamente trattati per rimanere al di sotto della durezza di 22 Rockwell.
  In tal caso, gli otturatori sono nichelati per prevenire l'azione di usura.

Qi kc Q9GAVB9E 5Q BD9 SVGc Se hf e 7Se f UhSXYe 6

- Acciaio inossidabile A182 che contiene molibdeno e adatto per temperature di servizio da + 232 ° C a + 371 ° C (+ 450 ° F ÷ 700 ° F).
  Normalmente utilizzato per valvole destinate per servizio ad alta temperatura o dove è richiesta ottima resistenza alla corrosione.

if USYQbi 0Se hf e 7Se f UhSXYe 16

13% Cr. - 316 - Monel (Solido o rivestimento) - Stellite N° 6 (rivestimento)

c x " fk 6

All Delta Valves products are normally available in:

Qi kc Q98Dd 0Se c c eTYkp UoUSl kYe di l f ke A//i YqUdf k e hi n 1 QA9E n SR e hn SS 5ReTp 7Se mUh6

- Standard carbon steel wich are supplied in 0.22% MAX carbon contents, and destined to general service at temperatures from - 26 °C up to + 232 °C (- 20 °F ÷ + 450 °F).
  Plugs are normally in carbon steel too, in hardened condition.

Qi kc QBDAbSR e hbSS 5ReTp 7Se mUh6

- Low temperature service
  Suitable from - 46 °C to + 232 °C (- 50 °F ÷ 450 °F). Normally used for below zero temperature to - 46°C. Must have a minimum average Charpy "V" notch Impact strenght a 15 foot/Lb.

Q98DQ98Dd 5QA9E n SR 5QBDAbSR ke dQSUc h6896FD6

- In Natural Gas is possible to encounter small Amounts of hydrogen sulfides (H2S) which may cause corrosion. This phenomenon is normally known as "Hydrogen Sulfide Embrittlement" or "Sulfide Stress Cracking".
  The absorbtion of hydrogen from part of Steel is cau sing of reduction of ductility which, when added to other elements of Stress given by the service Itself, may originate failure of the forged or Cast Component.
  Steels with Yield Strenghts above 621 MPa (90.000 psi) or with Hardness Over 22 Rockwell (235 Brinell) may be subject to "Sulfide Stress Cracking".
  In NACE MR.01.75 construction Delta Valves is carefully checking that all basic material components are properly treated in order to remain below the Hardness of 22 Rockwell. In such a case, plugs are property electro nickel coated to prevent galling action.

Qi kc Q9GAVB9E 5Q BD9 SVGc ReTp 7Se mUh6

- A182 stainless steel material which contains molybdenum and suitable for service temperature from + 232 °C to + 371 °C (+ 450 °F ÷ 700 °F). Normally used for valves destinated to high temperature service or where high corrosion resistance is needed.

if USYQbi 0ReTp 7Se mUh16

13% Chr. - 316 - Monel (Solid or coating) - Stellite N° 6 (coating)

i x “x“ Q flzxy ”i x “x“
Tflf à” x fl ”

ASME - AMERICAN SOCIETY of MECHANICAL ENGINEERS

ASME B46.1	Rugosità delle superfici / Surface Texture
ASME B 2.1	Raccordi filettati / Pipe Thread
ASME B16.10	Flange e raccordi flangiati / Pipe flanges and flanged fittings
ASME B36.10M	Tubi in accioaio saldati e senza saldature / Welded and seamless wrought Steel pipe
ASME B16.25	Estremità a saldare / Buttwelding ends
ASME B16.34	Valvole con estremità flangiate, filettatate e a saldare / Valves flanged, threaded and welding end
ASME B31.1	Tubazioni in pressione / Power piping
ASME B31.3	Tubazioni per impianti chimici e raffinerie di petrolio / Chemical plant and petroleum refinery piping
ASME B31.4	Sistema di trasporto mediante condotte per idrocarburi liquidi e altri liquidi Pipeline transportation system for liquid Hydrocarbons & other liquids
ASME B31.8	Sistema di tubazioni di trasporto e distribuzione del gas Gas transmition and distribution piping system

API - AMERICAN PETROLEUM INSTITUTE

API 6A	Specifiche per apparecchiature teste pozzo e alberi di Natale Specification for wellheads and christmas tree equipment
API 6D	Specifiche per valvole per condutture / Specifications for pipeline valves
API 598	Controllo e collaudo valvole / Valves inspection and testing
API 599	valvole a maschio in acciaio per raffinerie / Steel plug valves for refinery use
API 6FA	Specifiche test antincendio per valvole / Specifications for fire test for valves
API RP6F	Suggerimenti pratici per test antincendio per valvole / Recommended practice for fire test for valves

BS - BRITISH STANDARD

BS 5353	Valvole a maschio in acciaio / Steel plug valves
BS 5146	Controllo e collaudo per valvole in acciaio per industrie petrolifere
BS 2080	Scartamento, estremità - estremità, centro - faccia e centro estremità per valvole in acciaio Face to Face, Center to Face and End to End for steel valves
BS 1504	Specifica per acciai fusi utilizzati in pressione / Specification for steel castings for pressure purposes
BS 3755	Parte 1 Collaudo valvole (Specifica requisiti per esecuzione test in pressione) Testing of valves (Specification for production pressure testing requirements Parte 2 Collaudo valvole (Specifica requisiti per esecuzione test antincendio) Testing of valves (Specification for fire safe testing requirements

MSS - MANUFACTURING STANDARDIZATION SOCIETY

MSS SP 6	Finitura standard per superfici di contatto delle flange dei tubi Standard finish for contact face of pipe flanges
MSS SP 25	Sistema di marcatura standard per le valvole / Standard marking system for valves
MSS SP 44	Flange per tubi in acciaio / Steel pipe line flanges
MSS SP 45	By pass e collegamento di scarico standard / By pass and drain connection standard
MSS SP 55	Metodo visivo per qualità standard per acciai fusi / Quality standard for steel casting visual method
MSS SP 61	Test idrostatico per valvole in acciaio / Hydrostatic testing of steel valves

NACE - MR.01.75

Metallo resistente a tensocorrosione da solfuro. Attrezzatura per giacimenti petroliferi
Sulfide stress cracking resistant metallic. Materials for oilfield equipment.

mx ″ Qc x zfifl
Y Qzzfkfl b y fl zx ″
kfl i x “x “

Il tipo standard ha lo stelo che si estende dalla parte del diametro maggiore dell’otturatore conico (maschio). Le valvole a maschio sono dotate di un coperchio imbullonato che trattiene anche l’otturatore nel caso in cui il premistoppa venga rimosso. Il premistoppa ha due funzioni:

1) Mantenere la pressione sul paccostoppa e quindi quella di assicurare che non ci siano infiltrazioni attraverso lo stelo.
2) Provvede a mantenere l’otturatore nella sua corretta posizione nel corpo.

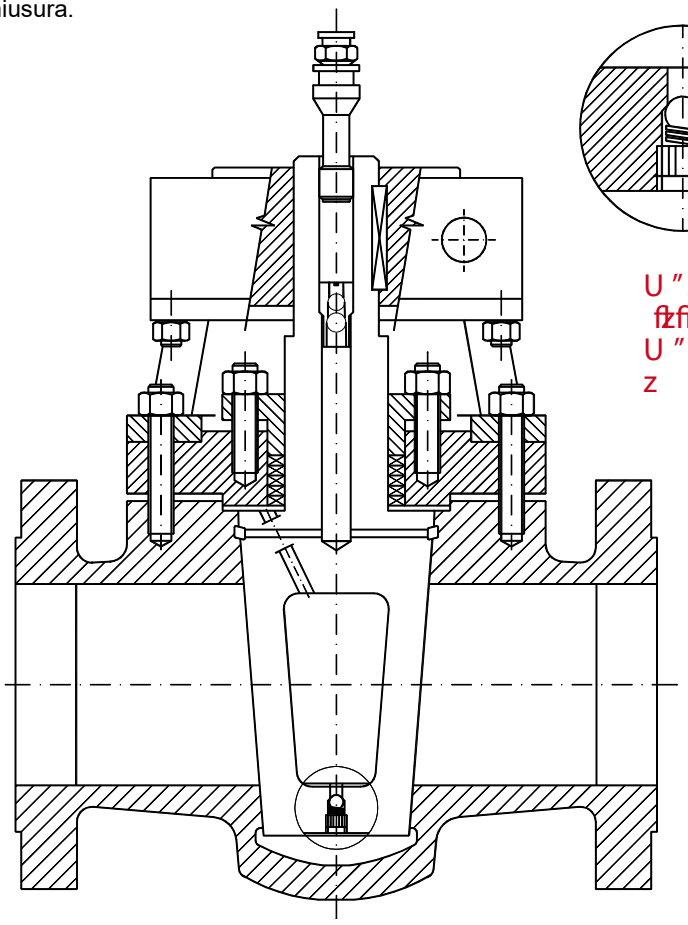
Funziona come supporto per il paccostoppa e come cuscinetto antifrizione per impedire la rotazione del paccostoppa.
L’ingrassatore consente la lubrificazione dell’otturatore; il grasso viene iniettato in un serbatoio attraverso un nipplo in cui una valvola di ritegno evita la fuoriuscita del grasso.
La ricarica del grasso può essere eseguita anche quando la valvola è sotto pressione sulla linea.
Il condotto del sigillante lascia passare il grasso nelle scanalature. Il sistema di scanalature dell’otturatore evita la possibilità di perdite di grasso nella linea poichè durante la rotazione dell’otturatore ogni scanalatura è isolata dal resto del sistema di lubrificazione. Lo stelo è provvisto di un indicatore di posizione e di un fermo meccanico per la posizione di apertura / chiusura.

b y flzx ″“ i ″″
f à mx ″
i x “x “ k ″

The standard type has the stem extended from the larger side of the tapered plug.
The plug valves are provided with a bolted cover which also retains the plug in case the gland is removed.
Gland has two functions:

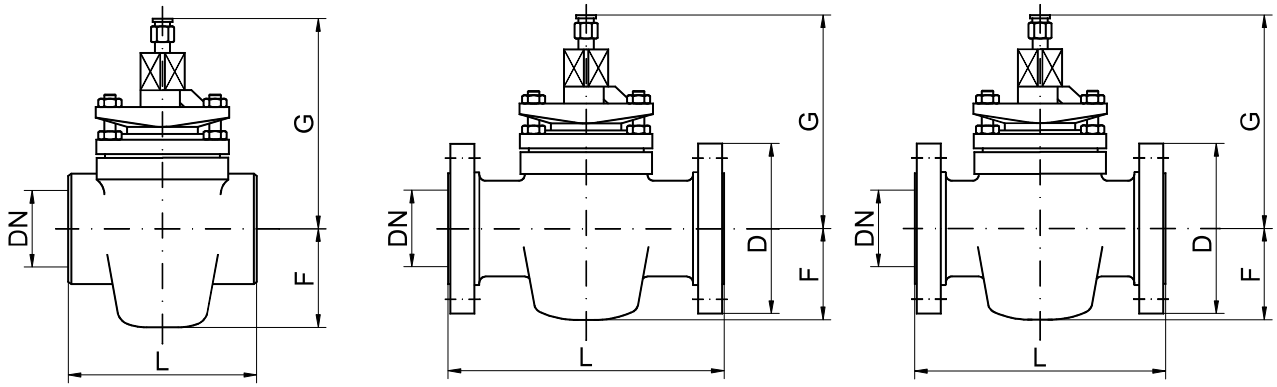
1) Maintain pressure on packing and to assure against any possible infiltration through the stem.
2) Retain the plug in its correct position in the body

It works as support for stem packing and as antifiriction bearing to prevent stem packing rotation.
Lubricator allows plug lubrication and grease is injected into reservoir through a nipple where a check valve avoids leakage of grease.
Recharge of grease can be done also when valve is under pressure on line.
Sealant duct lets the grease to pass into grooves.
The plug grooves system avoids possibility of grease leakage into the line, as during plug rotation each groove is isolated from the rest of the lubricant system.
Stem is provided with a position indicator and with a mechanical stop for open / close position.



U ″z fl ″“fl fly fl″
flzfiffl x“ ″ z ffl ″
U ″z fl x xffkky ″
z ″ / x flzx fl

S x " 9D8 7S x 9D8

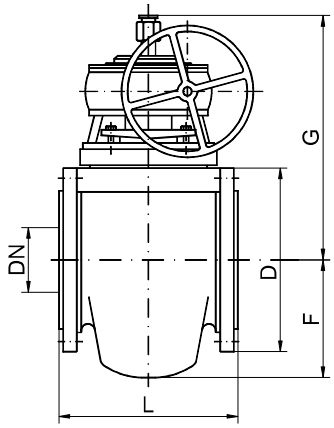


U " fl xi x " x " 5Q b" x 7n " " U " 5b" " e " x " "							
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**
DN	**mm**	**15**	**20**	**25**	**30**	**40**	**50**
L	mm	90	95	110	130	135	165
F	mm	50	50	60	65	65	80
G	mm	140	150	170	200	200	250
J ⧄	mm	22	22	25	25	25	28
Weight (approx.)	Kg	4	5	8	10	12	14

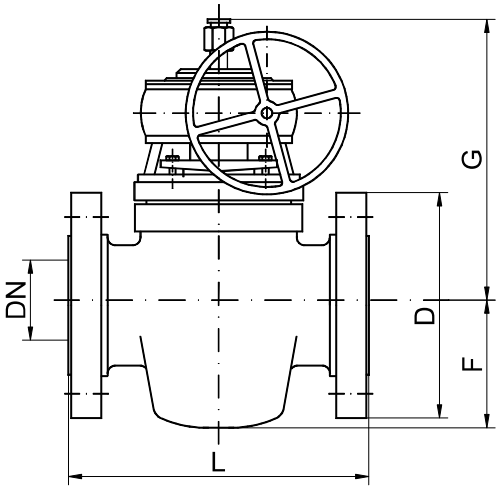
c " " h"à x " 5Q b" x 7h"à x fx " 5b" " e " x " "												
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**5**	**6**
DN	**mm**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
L BW	mm	-	-	-	-	-	267	305	330	356	-	457
L RF	mm	130	130	140	150	165	200	220	241	300	350	394
D	mm	89	98	108	118	127	152	178	191	229	254	280
F	mm	40	45	50	50	60	70	80	90	110	140	160
G	mm	150	165	170	180	210	250	280	300	340	390	420
J ⧄	mm	20	20	22	22	25	28	35	38	44	50	50
Weight (approx.)	Kg	3	4	6	9	13	18	24	35	50	75	110

c " " S 5Q b" x 7i fi fx " 5b" " e " x " "							
Taglia / size	**Inch**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**6**
DN	**mm**	**40**	**50**	**65**	**80**	**100**	**150**
L RF	mm	165	178	190	203	229	267
L RJ	mm	-	191	203	216	242	280
L BW	mm	-	267	305	330	356	457
D	mm	127	152	178	191	229	280
F	mm	60	70	80	90	110	155
G	mm	210	250	280	300	340	420
J ⧄	mm	25	28	35	38	44	50
Weight (approx.)	Kg	13	18	22	28	45	86

S x ″ 9D8
S x 9D8

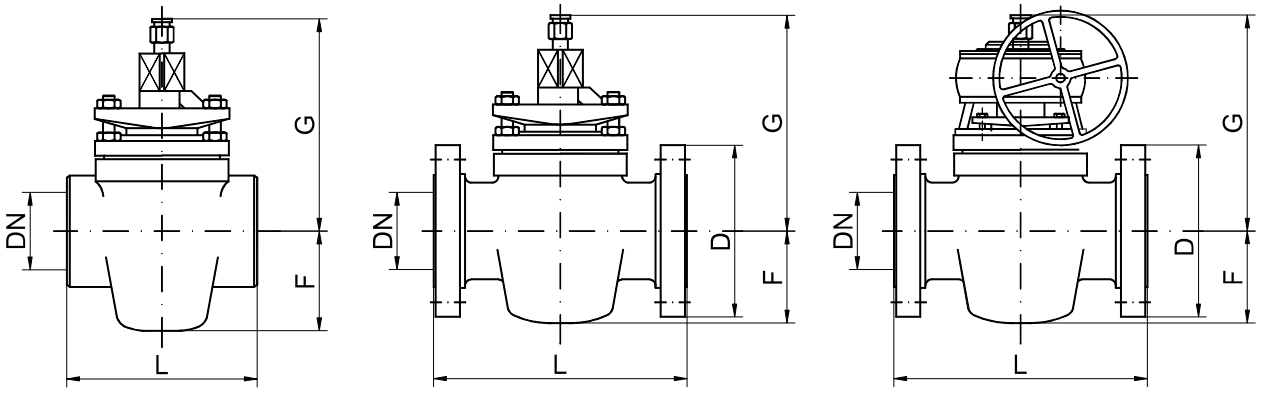


c ″″ S 5S hff ″ 7i fi fx ″ 5W″x e ″ x ″″					
Taglia/ size	**Inch**	**6**	**8**	**10**	**12**
DN	**mm**	**150**	**200**	**250**	**300**
L RF	mm	267	292	330	356
L RJ	mm	280	305	343	369
D	mm	280	343	406	483
F	mm	155	190	240	270
G	mm	510	540	590	620
Handwheel diameter	mm	500	500	650	650
Weight (approx.)	Kg	105	140	210	285



c ″″ h″à x ″ 5S hff ″ 7h″à x fx ″ 5W″x e ″ x ″″					
Taglia/ size	**Inch**	**6**	**8**	**10**	**12**
DN	**mm**	**150**	**200**	**250**	**300**
L RF	mm	394	457	533	610
L RJ	mm	407	470	546	623
L BW	mm	457	521	559	635
D	mm	280	343	406	483
F	mm	160	190	210	225
G	mm	520	560	570	585
Handwheel diameter	mm	500	500	650	650
Weight (approx.)	Kg	140	210	260	325

S x ” B88 7S x B88



U ” fl Vfl” x x xkx zx 5Qb” x 7i z ” ”” i z ”” n ”” ” “ 5b” ” e ” x ””							
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/4**	**1 1/2**	**2**
DN	**mm**	**15**	**20**	**25**	**30**	**40**	**50**
L	mm	90	95	110	130	135	165
F	mm	50	50	60	65	65	80
G	mm	140	150	170	200	200	250
J ⧄	mm	22	22	25	25	25	28
Weight (approx.)	Kg	4	5	8	10	12	14

c ”” S 5Qb” x 7i fi f x ” 5b” ” e ” x ””							
Taglia / size	**Inch**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**6**
DN	**mm**	**40**	**50**	**65**	**80**	**100**	**150**
L RF	mm	190	216	241	283	305	403
L RJ	mm	203	232	257	299	321	419
L BW	mm	-	267	305	330	356	547
D	mm	156	152	178	191	254	318
F	mm	60	70	80	90	110	155
G	mm	210	250	280	300	340	420
J ⧄	mm	25	32	35	38	44	50
Weight (approx.)	Kg	15	20	35	45	60	130

c ”” S 5S hfl” ” 7i fi f x ” 5W” x e ” x ””					
Taglia/ size	**Inch**	**6**	**8**	**10**	**12**
DN	**mm**	**150**	**200**	**250**	**300**
L BW	mm	457	521	559	635
L RF	mm	403	419	457	502
L RJ	mm	419	435	473	518
D	mm	318	381	445	521
F	mm	160	190	215	235
G	mm	510	550	570	585
Handwheel diameter	mm	500	650	650	650
Weight (approx.)	Kg	170	250	300	400

mx ″ Qc x zfifl Y Qzzfkfl b y fl zx ″ x ″ fl ″ yflx zfkx ″ e x ″ h ″ zfkx b y flzx ″ ″ i ″ ″ f à mx ″ f ″ ″ Rx x z″ ″ Y ″ ″ ″ k ″

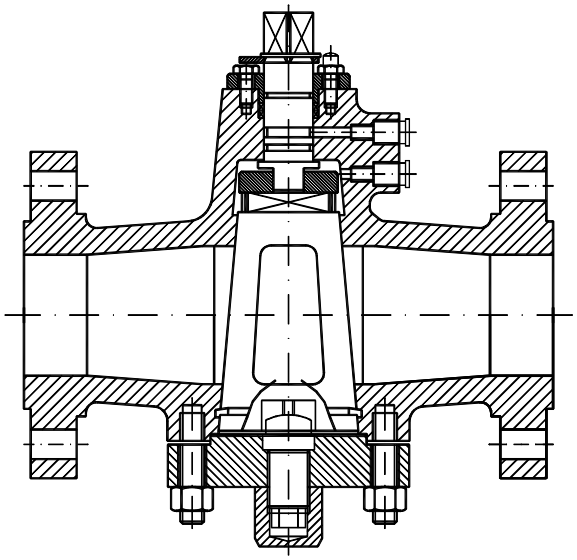
Queste valvole sono installate dove sono ci sono pressioni pulsanti o pressioni statiche elevate. Il vantaggio offerto da un otturatore a pressione bilanciata è la pressione equalizzata tra l'otturatore e le camere superiore e inferiore del corpo.
La pressione è bilanciata da due fori nell'otturatore che collegano la porta dell'otturatore con le cavità inferiore e superiore.
Il foro nell'estremità inferiore è un semplice passaggio di collegamento mentre il foro nell'estremità superiore è dotato di una valvola di ritegno quindi la pressione è sempre uguale a quella nella cavità dell'estremità grande ed è sempre uguale o maggiore della pressione di linea nella piccola cavità terminale.
Altri vantaggi sono:

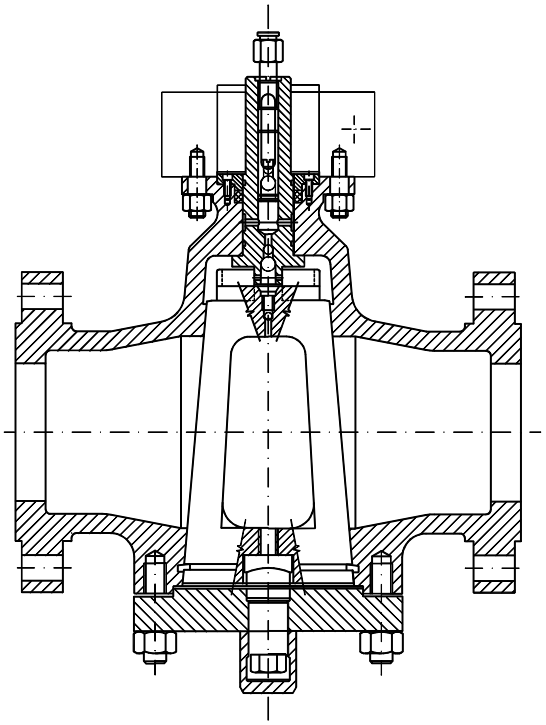
- Facilità di manutenzione anche dopo lunghi periodi in posizione aperta / chiusa
- In caso di bloccaggio dell'otturatore al corpo, è possibile lo sblocco iniettando lubrificante attraverso l'ingrassatore con valvola in servizio.
- La tenuta dello stelo è assicurata dall'anello antifrizione inserito tra stelo e corpo. Due guarnizioni montate tra lo stelo e il corpo valvola garantiscono contro qualsiasi perdita attraverso lo stelo.
- La tenuta del sistema operativo è assicurata dai dispositivi di ritegno a sfera sul condotto di lubrificazione. Nel condotto di lubrificazione viene inserita una valvola di ritegno addizionale.
- Quando richiesto, la valvola è dotata di iniettori di grasso a doppia azione adatti per la lubrificazione con pistole e bastoncini di lubrificazione.

These valves are installed where existing pulsant or static high pressures are present. The benefit which a pressure balanced plug gives is the equalized pressure between the plug and upper and lower chambers.
Pressure is balanced by two holes in theplug connecting the plug port with lower and upper cavities.
The hole in the lower end is a simple connecting passsage whilst the hole in the upper end is provided with a check valve so the pressure is always equal to the one in the large end cavity and it is always equal to the greater than the line pressure in the small end cavity.
Others advantages are:

- Easy maintenance even after long time in open / closed position
- In case of locking of the plug with the body, it is possible to release by injecting lubricant through the greaser with the valve in service
- Tightness of the stem is assured by antifriction ring fitted between stem and body. Two gaskets fitted between stem and valve body garantee against any leakage through the stem.
- Tightness of the operating system is assured by the ball check devices on the lubrication duct. An additional check valve is put into the lubrication duct.
- When required the valve is equipped with double operating grease injectors suitable for lubricating gun and lubricating sticks.

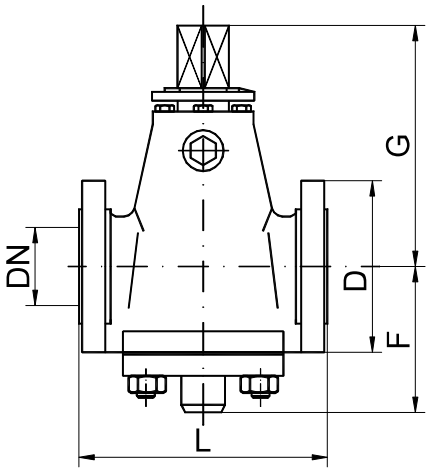
Q ″ x 5b″ ″ ″ x ″ ″





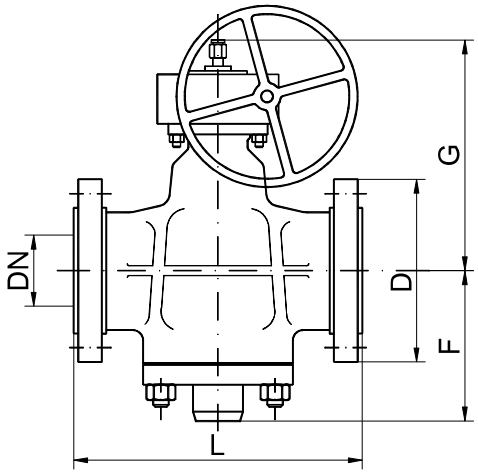
S ff ″ 5W′ x ″ x ″ ″

S x " 9D8 7S x 9D8



c "" S 5Qb" x 7i fi fx " 5b" " e " x ""

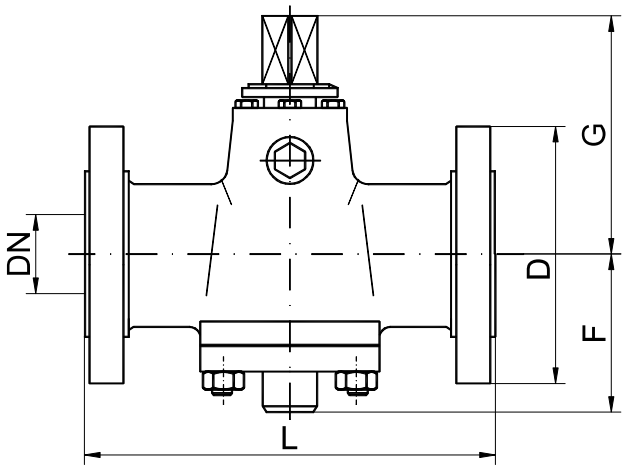
Taglia / size	Inch	1 1/2	2	2 1/2	3	4	6
DN	**mm**	**40**	**50**	**65**	**80**	**100**	**150**
L RF	mm	165	178	190	203	229	267
L RJ	mm	-	191	203	216	242	280
L BW	mm	-	267	305	330	356	457
D	mm	127	152	178	191	229	280
F	mm	120	130	150	170	190	235
G	mm	270	290	320	360	380	460
J ⧄	mm	40	45	50	50	50	65
Weight (approx.)	Kg	15	20	30	40	60	110



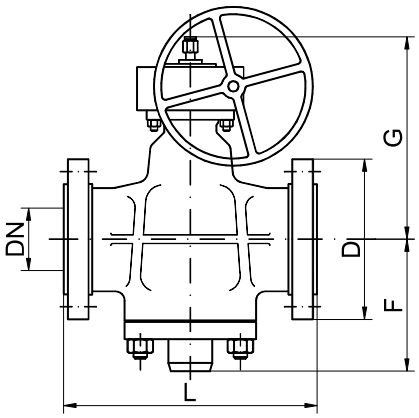
c "" S " m" fl5S hff " 7i fi . m" flf x " 5W" x e " x ""

Taglia / size	Inch	6	8	10	12	14	16	18	20	22	24	30
DN	**mm**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**750**
L RF	mm	267	292	330	356	686	762	864	914	1030	1067	1296
L BW	mm	457	521	559	635	686	762	864	914	1030	1067	1397
D	mm	280	343	406	483	534	597	635	699	750	813	984
F	mm	240	260	280	300	330	350	380	410	460	500	580
G	mm	480	510	530	550	600	620	640	700	750	800	900
Handwheel Diam.	mm	500	500	650	650	650	650	650	650	800	800	800
Weight (approx.)	Kg	135	170	230	350	460	700	880	1050	1500	2030	3000

S x ″ B88 7S x B88

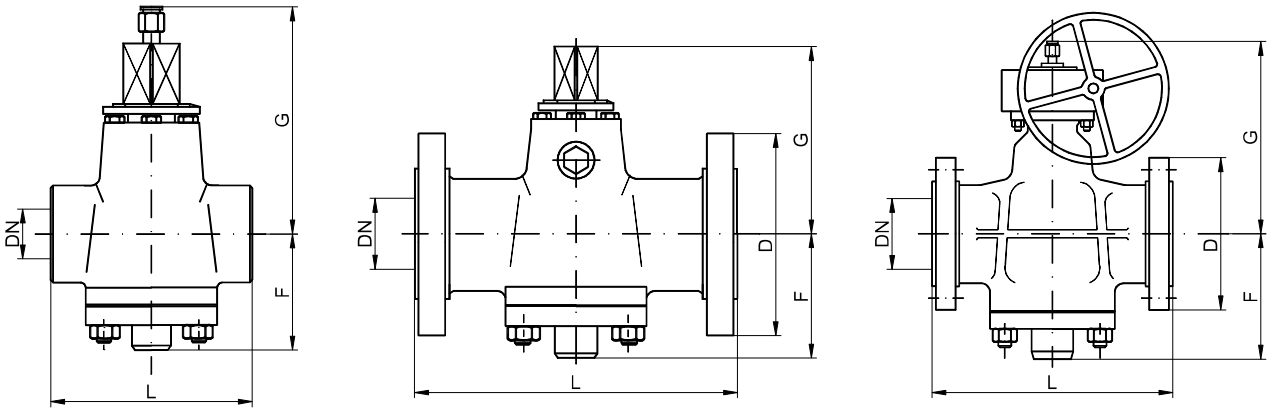


c ″ ″ S 5Q b″ x 7i fi f x ″ 5b″ ″ e ″ x ″ ″							
Taglia / size	**Inch**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**6**
DN	**mm**	**40**	**50**	**65**	**80**	**100**	**150**
L RF	mm	190	216	241	283	305	403
L RJ	mm	203	232	257	299	321	419
L BW	mm	-	267	305	330	356	457
D	mm	156	165	191	210	254	318
F	mm	115	140	150	170	180	235
G	mm	250	290	310	360	380	460
J ⧅	mm	40	45	50	50	50	65
Weight (approx.)	Kg	20	25	35	50	76	140



c ″ ″ m″ fl5S hff″ ″ 7m″ flf x ″ 5W″ x e ″ x ″ ″											
Taglia / size	**Inch**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**
DN	**mm**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**
L RF	mm	403	419	457	502	762	838	914	991	1092	1143
L RJ		419	435	473	518	778	854	930	1010	1114	1165
L BW	mm	457	521	559	635	762	838	914	991	1032	1143
D	mm	318	381	445	521	584	648	711	775	838	915
F	mm	240	260	280	300	350	370	400	430	480	530
G	mm	500	530	550	570	620	640	700	750	820	900
Handwheel Diameter	mm	650	650	650	650	650	650	800	800	800	800
Weight (approx.)	Kg	190	250	285	385	630	800	1000	1200	1500	2200

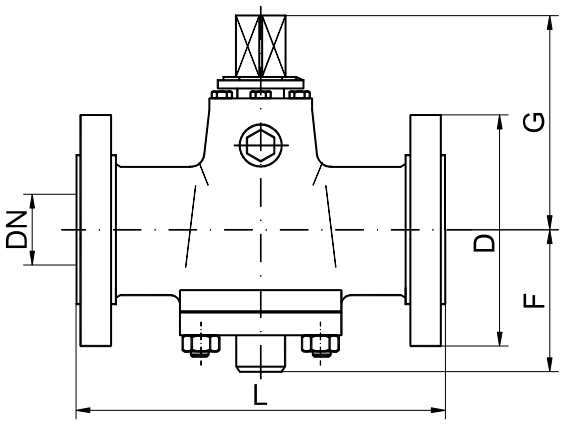
S x " C88 7S x C88



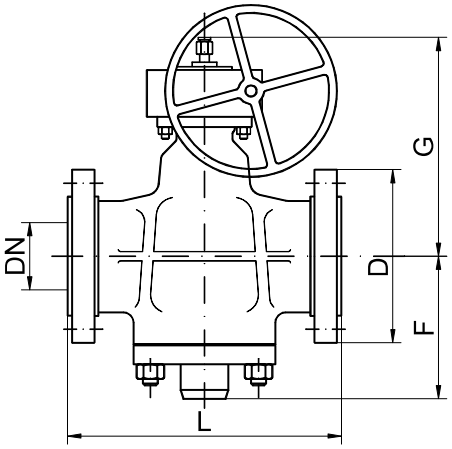
c " " h"à x " 5Q b" x 7h"à x f x " 5b" " e " x " "										
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/2**	**2**	**2 1/2**	**3**	**4**	**6**
DN	**mm**	**15**	**20**	**25**	**40**	**50**	**65**	**80**	**100**	**150**
L RF	mm	165	191	216	241	292	330	256	406	495
L BW	mm	165	191	216	241	292	330	256	406	495
D	mm	95	118	124	156	165	141	210	254	318
F	mm	85	85	95	110	120	130	140	170	230
G	mm	170	170	180	195	235	260	310	350	460
J ☒	mm	25	29	35	40	45	50	50	50	65
Weight (approx.)	Kg	16	18	22	25	30	40	65	105	180

c " " m" fl5S hfl" " 7m" flf x " 5W" x e " x " "										
Taglia / size	**Inch**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**24**
DN	**mm**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
L RF	mm	495	597	673	762	826	902	978	1054	1232
L BW	mm	495	597	673	762	826	902	978	1054	1232
D	mm	318	381	445	521	584	648	711	775	914
F	mm	500	530	550	570	620	640	700	750	900
G	mm	230	260	280	300	350	370	400	430	530
J ☒	mm	650	650	650	650	650	650	800	800	800
Weight (approx.)	Kg	200	260	300	410	660	820	1030	1250	2320

S x " E88 7S x E88

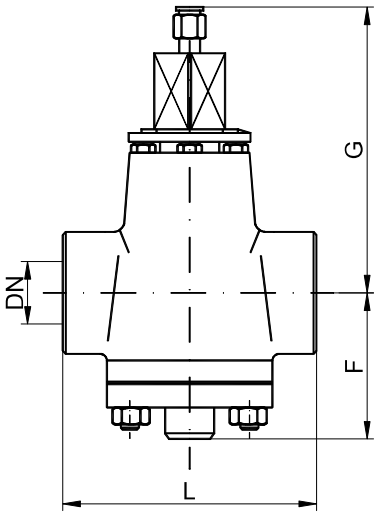


c " " h"à x " 5Q b" x 7h"à x f x " 5b" " e " x " "									
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/2**	**2**	**2 1/2**	**3**	**4**
DN	**mm**	**15**	**20**	**25**	**40**	**50**	**65**	**80**	**100**
L RF	mm	159	191	216	241	292	330	356	432
L RJ	mm	159	191	216	241	295	333	359	435
L BW	mm	-	-	216	241	292	330	356	432
D	mm	95	118	121	156	165	191	210	273
F	mm	100	120	120	140	140	150	160	185
G	mm	160	200	200	270	290	320	360	380
J ☒	mm	22	27	27	40	45	50	50	50
Weight (approx.)	Kg	7	11	13	26	30	45	65	90



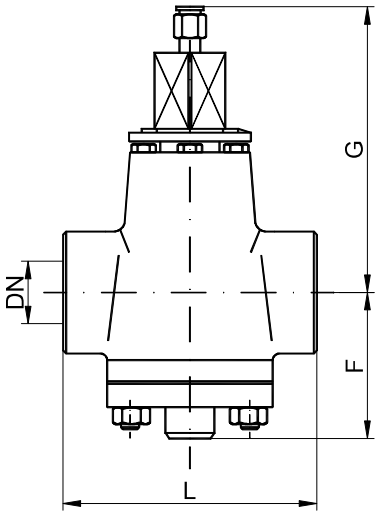
c " " h"à x " " m" fl5S hfl" " 7h"à x x " m" flf x " 5W" x e " x " "												
Taglia / size	**Inch**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**22**	**24**
DN	**mm**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**
L RF	mm	432	559	660	787	838	889	991	1092	1194	1296	1397
L RJ	mm	435	562	663	790	841	892	994	1095	1200	1305	1407
L BW	mm	432	559	660	787	838	889	991	1092	1194	1296	1397
D	mm	273	356	419	508	559	603	686	743	813	870	940
F	mm	185	243	260	280	300	350	370	400	430	500	521
G	mm	380	520	550	570	580	610	625	700	750	830	900
Handwheel Diam.	mm	500	500	650	650	650	650	650	800	800	800	800
Weight (approx.)	Kg	135	210	390	550	680	860	1100	1550	2000	2500	3200

S x " E88 7S x E88



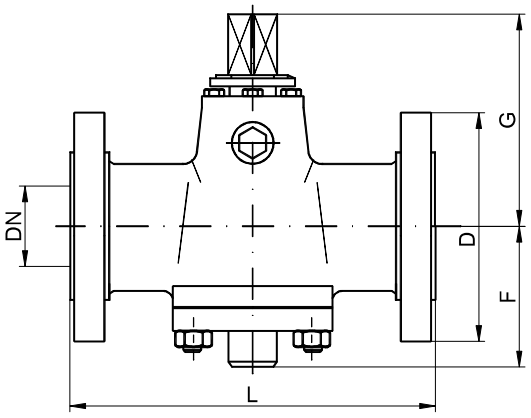
U " fl Vfl" x x x kx zx 5Q b" x 7i z " "" i z "" n " " " 5b" " e " x ""								
Taglia / size	**Inch**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1 1/2**	**2**
DN	**mm**	**8**	**10**	**15**	**20**	**25**	**40**	**50**
L	mm	89	89	89	114	133	187	229
F	mm	90	90	95	95	100	118	132
G	mm	145	145	145	145	210	280	300
J ⧅	mm	22	22	22	22	27	40	45
Weight (approx.)	Kg	4	4	5	5	9	17	26

S x " G88 7S x G88

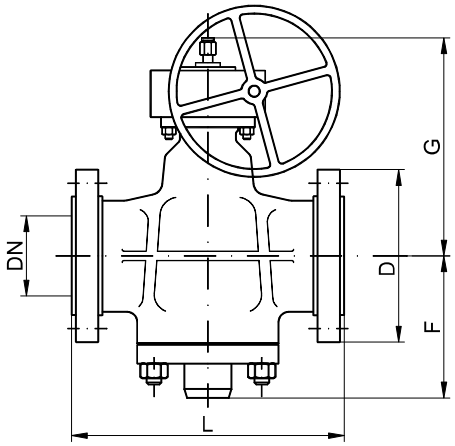


U " fl Vfl" x x x kx zx 5Q b" x 7i z " "" i z "" n " " " 5b" " e " x ""								
Taglia / size	**Inch**	**1/4**	**3/8**	**1/2**	**3/4**	**1**	**1 1/2**	**2**
DN	**mm**	**8**	**10**	**15**	**20**	**25**	**40**	**50**
L	mm	89	89	89	114	133	187	229
F	mm	90	90	95	95	100	118	132
G	mm	145	145	145	145	210	280	300
J ⧅	mm	22	22	22	22	27	40	45
Weight (approx.)	Kg	4	4	5	5	9	17	26

S x " H88 7S x H88

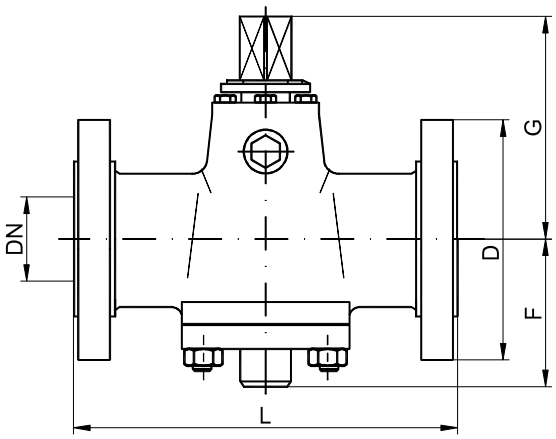


c " " h"à x " 5Q b" x 7h"à x f x " 5b" " e " x " "								
Taglia / size	**Inch**	**1/2**	**3/4**	**1**	**1 1/2**	**2**	**3**	**4**
DN	**mm**	**15**	**20**	**25**	**40**	**50**	**80**	**100**
L RF	mm	222	248	254	305	368	381	457
L RJ	mm	222	248	254	305	372	384	460
L BW	mm	-	-	-	-	-	381	457
D	mm	121	130	149	178	216	241	292
F	mm	100	100	100	140	140	150	200
G	mm	150	180	200	280	300	360	380
J ⧄	mm	22	27	27	40	45	50	50
Weight (approx.)	Kg	10	15	20	34	65	90	120



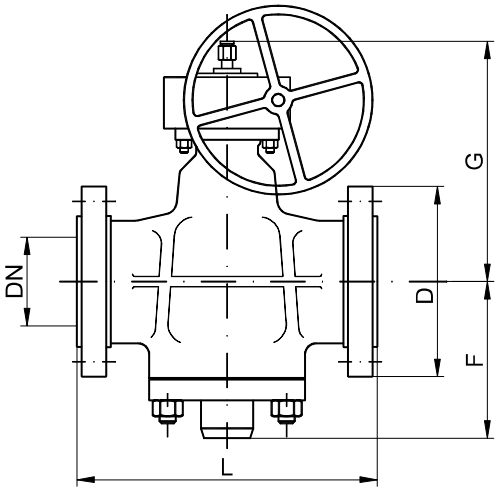
c " " h"à x " " m" fl5S hff " 7h"à x x " m" flf x " 5W" x e " x " "									
Taglia / size	**Inch**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**20**
DN	**mm**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**500**
L RF	mm	457	610	737	838	965	1028	1130	1321
L RJ	mm	460	613	740	841	968	1038	1140	1324
L BW	mm	452	610	737	838	965	1028	1130	1321
D	mm	292	381	470	546	610	641	705	857
F	mm	200	250	300	320	355	370	380	400
G	mm	410	510	540	580	660	660	680	700
Handwheel Diam.	mm	500	600	650	650	800	800	800	800
Weight (approx.)	Kg	145	320	480	760	1280	1500	1650	2500

S x ″ 9D88 7S x 9D88



c ″ ″ h″à x ″ 5Qb″ x 7h″à x f x ″ 5b″ ″ e ″ x ″ ″

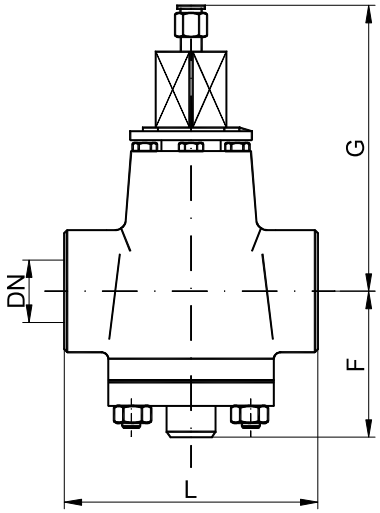
Taglia / size	Inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
DN	**mm**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**
L RF	mm	222	248	254	279	305	368	419	470
L RJ	mm	222	248	254	279	305	371	422	473
L BW	mm	-	-	-	-	-	-	-	470
D	mm	121	130	149	159	178	216	245	267
F	mm	100	100	100	120	130	150	160	170
G	mm	160	200	200	250	270	390	320	360
J ⧅	mm	22	27	27	35	40	45	50	50
Weight (approx.)	Kg	11	15	20	24	36	55	80	100



c ″ ″ h″à x ″ ″ m″ fl5S hff″ ″ 7h″à x x ″ m″ flf x ″ 5W″x e ″ x ″ ″

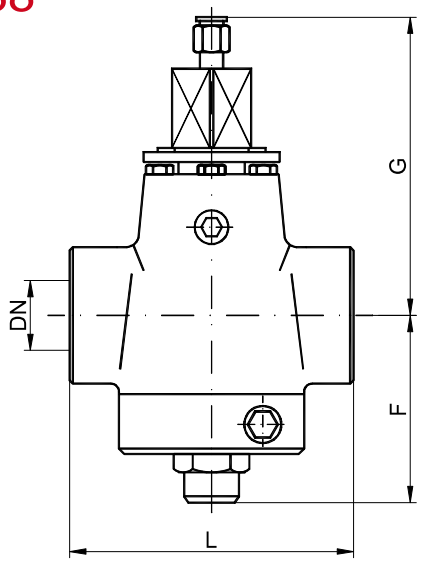
Taglia / size	Inch	3	4	6	8	10	12
DN	**mm**	**80**	**100**	**150**	**200**	**250**	**300**
L RF	mm	470	546	705	832	991	1130
L RJ	mm	473	549	711	842	1001	1146
L BW	mm	470	546	705	832	991	1130
D	mm	267	311	394	483	584	673
F	mm	150	210	260	300	360	460
G	mm	390	400	500	540	580	650
Handwheel Diam.	mm	500	500	650	650	800	800
Weight (approx.)	Kg	130	220	550	1100	1350	1900

S x " 9D88 7S x 9D88



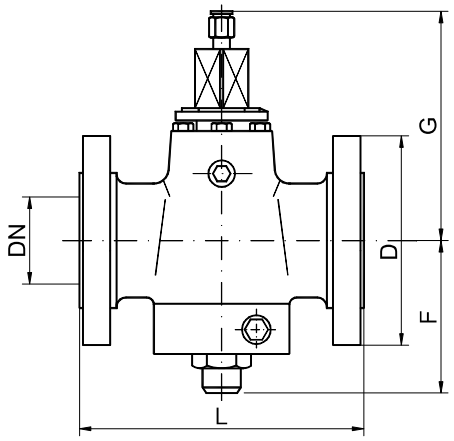
U " fl Vfl" x x xkx zx 5Q b" x 7i z " "" i z "" n " " " 5b" " e " x ""							
Taglia / size	**Inch**	**3/8**	**1/2**	**3/4**	**1**	**1 1/2**	**2**
DN	**mm**	**10**	**15**	**20**	**25**	**40**	**50**
L	mm	89	89	114	133	229	229
F	mm	95	95	95	100	125	135
G	mm	145	145	145	210	280	300
J ⧄	mm	22	22	22	27	40	45
Weight (approx.)	Kg	5	5	5	9	21	30

S x " AD88 7S x AD88

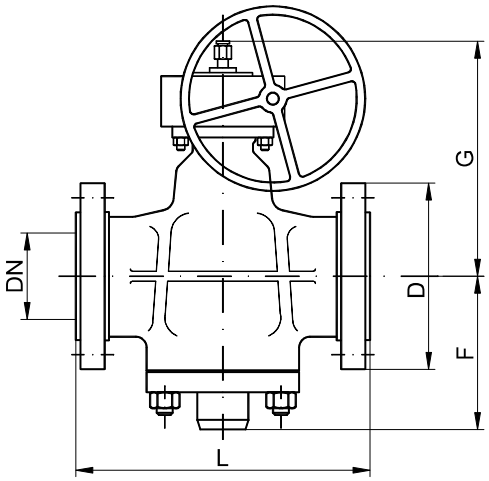


U " fl Vfl" x x xkx zx 5Q b" x 7i z " "" i z "" n " " " 5b" " e " x ""				
Taglia / size	**Inch**	**1/2**	**3/4**	**1**
DN	**mm**	**15**	**20**	**25**
L	mm	133	133	133
F	mm	150	150	150
G	mm	240	240	240
J ⧄	mm	32	32	32
Weight (approx.)	Kg	16	18	18

S x " AD88 7S x AD88



c "" h"à x " 5Q b" x 7h"à x f x " 5b" " e " x ""					
Taglia / size	**Inch**	**1**	**1 1/2**	**2**	**2 1/2**
DN	**mm**	**25**	**40**	**50**	**65**
L RF	mm	308	384	451	508
L RJ	mm	308	387	454	514
L BW	mm	308	384	451	508
D	mm	159	203	235	267
F	mm	150	165	175	190
G	mm	240	240	260	280
J ⧄	mm	32	45	50	50
Weight (approx.)	Kg	32	68	85	110



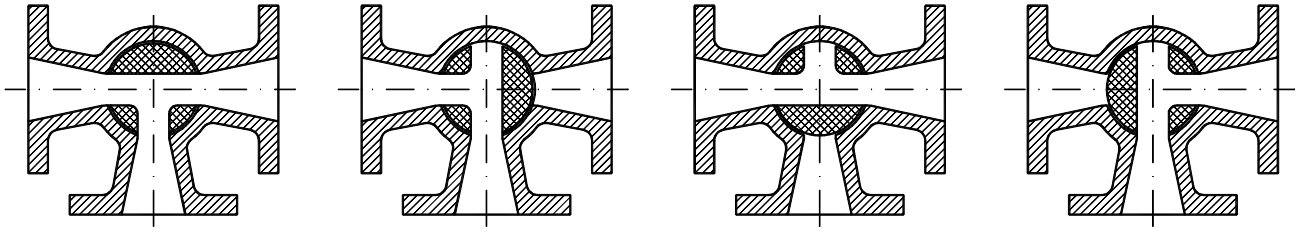
c "" h"à x " 5S hff " 7h"à x f x " 5W" x e " x ""					
Taglia / size	**Inch**	**3**	**4**	**6**	**8**
DN	**mm**	**80**	**100**	**150**	**200**
L RF	mm	-	673	914	1022
L RJ	mm	-	683	927	1038
L BW	mm	578	673	914	1022
D	mm	305	356	483	552
F	mm	200	220	260	310
G	mm	410	425	470	510
Handwheel Diam.	mm	500	650	800	800
Weight (approx.)	Kg	165	230	660	1250

mx ″ c fl x x ″ ″ x ff
c fl mx ″ kfi ″ ″ x x “ V x

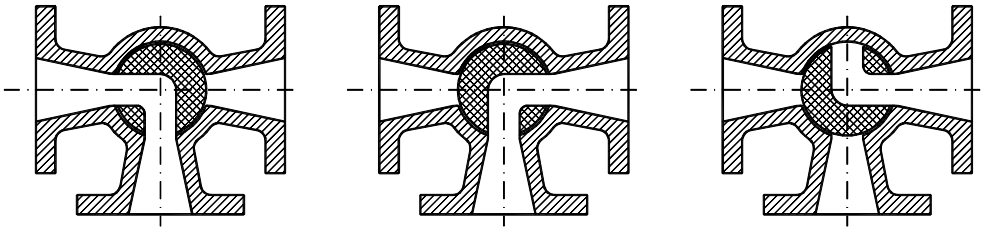
Le valvole a maschio multiporta da 150 a 600 Lbs sono disponibili con otturatore standard o rovesciato. Le valvole con otturatore a tre vie possono essere realizzate in esecuzione regolare o con configurazione transflow. Quando viene ruotato l’otturatore a modello regolare, il primo flusso viene isolato prima che il secondo inizi ad aprirsi.
In questo modo si evita la miscela dei due flussi nel corpo.
Nella configurazione transflow, le porte dell’otturatore sono più grandi delle porte del corpo valvola, quindi quando l’otturatore viene ruotato da una posizione di flusso ad un’altra, la seconda posizione di flusso inizia ad aprirsi prima che la prima sia completamente chiusa. Questo tipo di valvola ad otturatore è essenziale quando non è possibile l’interruzione temporanea del flusso.
Le valvole a quattro vie possono essere utilizzate solo per distribuzione del flusso; non ci si può aspettare che garantiscano la tenuta ad alta pressione differenziale senza qualche perdita da un lato all’altro della valvola. Le nostre valvole ad otturatore multiporta sono disponibili con attacchi a T o a L a tre vie e con attacchi a doppia L a quattro vie.

Multiport plugs from 150 lb to 600 lb are featured like straightway standard or inverted plug types. Threeways plug valves can be made in regular and transflow pattern execution.
When a regular pattern plug valve is being turned, the first flow is insulated before the second one starts to open.
The design avoids mixture of the two flows in the body.
In the transflow pattern, the ports of the plug are larger than the ports of the valve body, therefore when the plug is turned from a flow position to another, the second flow position starts to open before the first one is completely closed.
This type of plug valve is essential when temporary shut off of the flow is not possible.
Fourways valves can only be used as flow distribution; They cannot be expected to guarantee tightness under high differential pressure without some leakage from one side of the valve to the other.
Our multiport plug valves are available in threeways - T or L port and fourways - double L port execution.

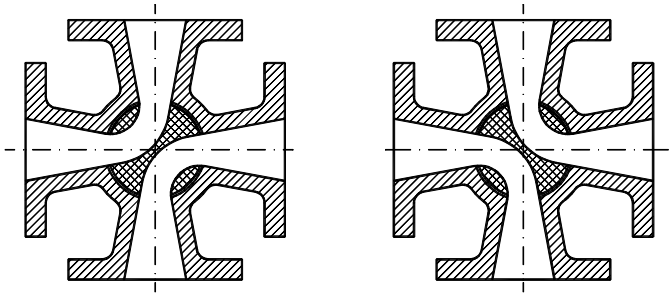
mx ″ c fl ″ x ″ ff z x xzz x k
kfi ″ ″ x k f ″ ″ mx ″



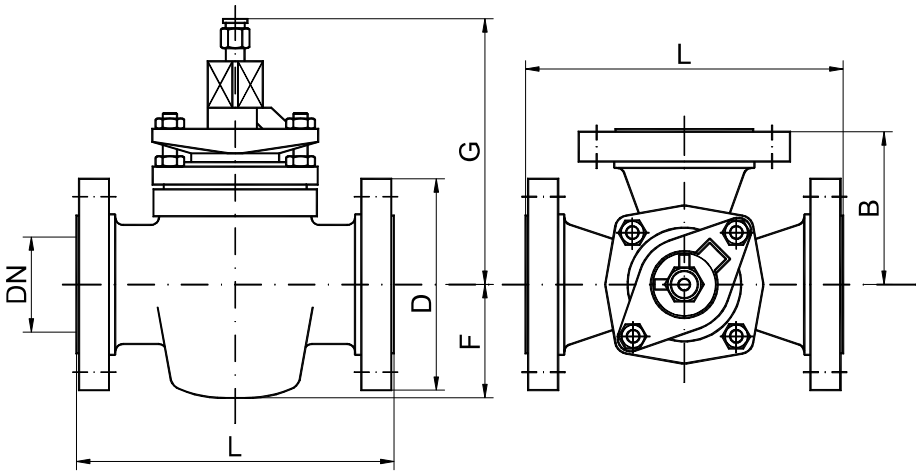
mx ″ c fl ″ x ″ ff z x xzz x b
kfi ″ ″ x b f ″ ″ mx ″



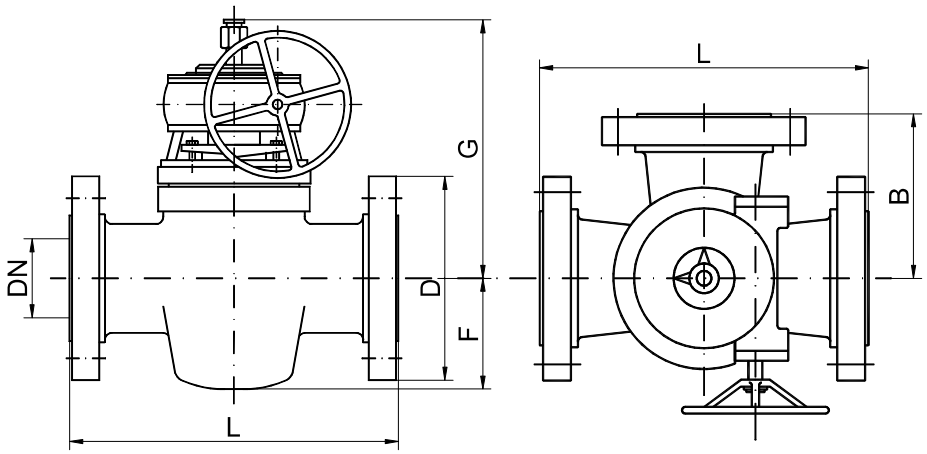
mx ″ c fl ″ x g x ff 5V x mx ″



S x " 9D8 5k " ff
S x 9D8 5kfi " " x

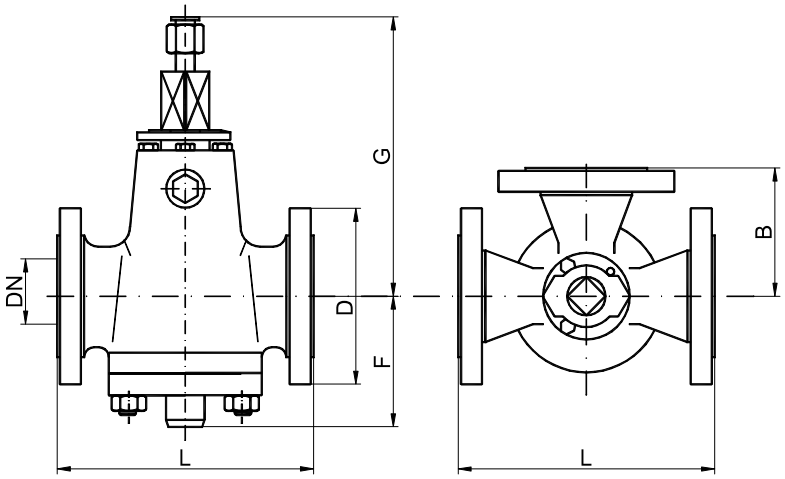


c " " k x 5Q b" x 7k x f x " 5b" " e " x " "						
Taglia / size	**Inch**	**1 1/2**	**2**	**2 1/2**	**3**	**4**
DN	**mm**	**40**	**50**	**65**	**80**	**100**
L RF	mm	220	250	265	300	350
B	mm	110	120	132.5	160	175
D	mm	127	152	178	191	229
F	mm	65	80	90	105	134
G	mm	225	280	325	345	390
J ▨	mm	28	35	36	44	52
Weight (approx.)	Kg	19	26	35	73	110

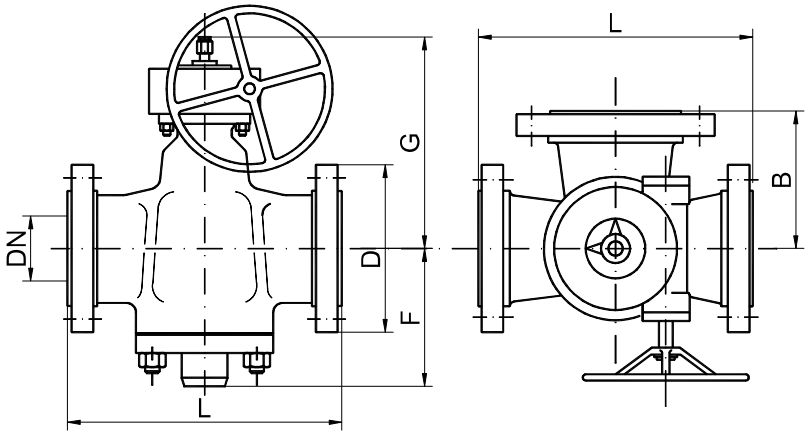


c " " k x 5S hff " 7k x f x " 5W" x e " x " "					
Taglia / size	**Inch**	**6**	**8**	**10**	**12**
DN	**mm**	**150**	**200**	**250**	**300**
L RF	mm	457	508	622	750
B	mm	225	254	311	375
D	mm	280	343	406	483
F	mm	165	270	330	360
G	mm	510	520	600	610
Handwheel diameter	mm	500	500	650	650
Weight (approx.)	Kg	240	310	470	590

S x " B88 5k " fl"
S x B88 5kfi " " x

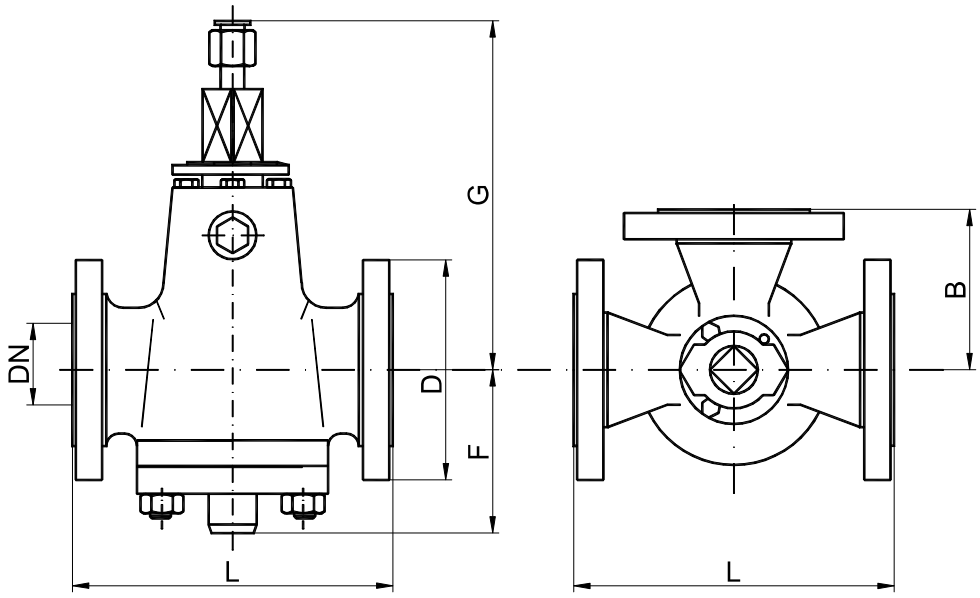


c " " k x 5Q b" x 7k x f x " 5b" " e " x " "							
Taglia / size	**Inch**	**1 1/4**	**1 1/2**	**2**	**2 1/2**	**3**	**4**
DN	**mm**	**32**	**40**	**50**	**65**	**80**	**100**
L RF	mm	216	241	280	305	330	412
B	mm	108	120.5	140	152.5	165	206
D	mm	133	156	165	191	210	254
F	mm	115	125	145	155	180	210
G	mm	215	230	265	310	330	430
J ▨	mm	35	40	45	50	50	50
Weight (approx.)	Kg	32	42	49	65	82	115



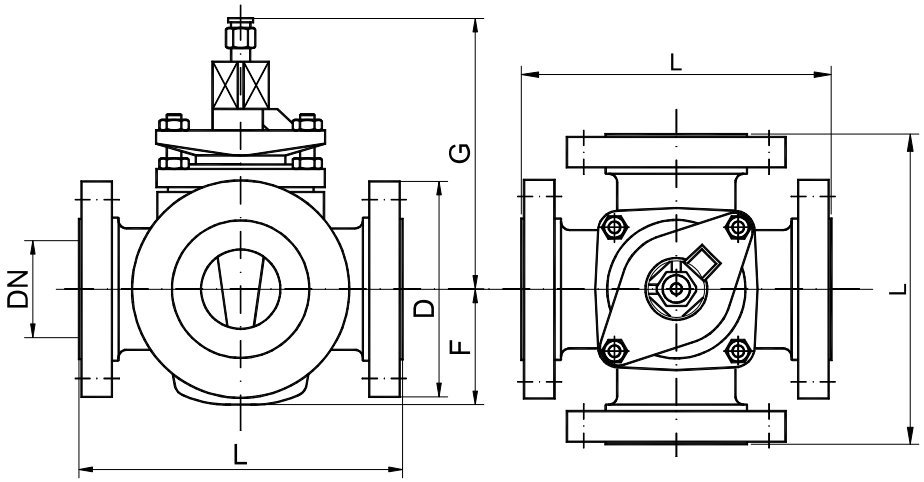
c " " k x 5S hfl" " 7k x f x " 5W" x e " x " "					
Taglia / size	**Inch**	**6**	**8**	**10**	**12**
DN	**mm**	**150**	**200**	**250**	**300**
L RF	mm	496	586	762	800
B	mm	248	293	381	400
D	mm	318	381	445	521
F	mm	240	265	305	385
G	mm	475	535	565	630
Handwheel diameter	mm	650	650	650	650
Weight (approx.)	Kg	250	340	390	515

S x " E88 5k " fl
S x E88 5kfi " " x



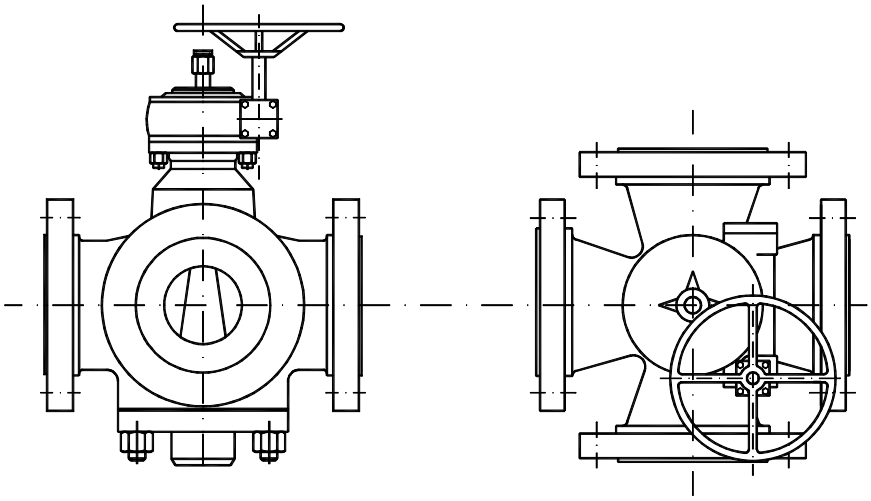
c " " k x 5Q b" x 7k x f x " 5b" " e " x " "				
Taglia / size	**Inch**	**2**	**3**	**4**
DN	**mm**	**50**	**80**	**100**
L RF	mm	292	356	432
L RJ	mm	295	359	435
B	mm	146	178	216
D	mm	165	210	273
F	mm	145	175	210
G	mm	295	370	430
J ⧅	mm	45	50	65
Weight (approx.)	Kg	95	125	175

S x " 9D8 5g x ff
S x 9D8 5V x



c "" k x 5Q b" x 7k x f x " 5b" " e " x ""

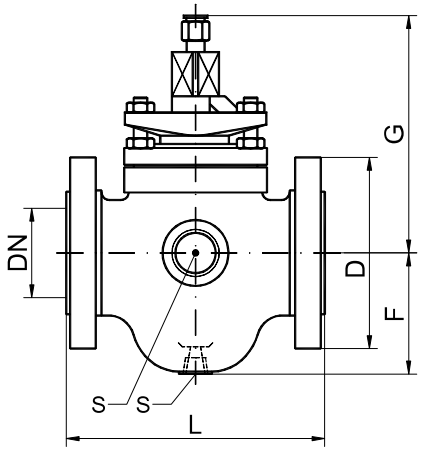
Taglia / size	Inch	1 1/2	2	2 1/2	3	4
DN	**mm**	**40**	**50**	**65**	**80**	**100**
L RF	mm	220	240	265	300	350
D	mm	127	152	178	191	220
F	mm	65	80	90	105	130
G	mm	245	255	295	350	380
J ⧅	mm	28	28	28	44	50
Weight (approx.)	Kg	24	36	46	72	110



c "" k x 5S hff " 7k x f x " 5W' x e " x ""

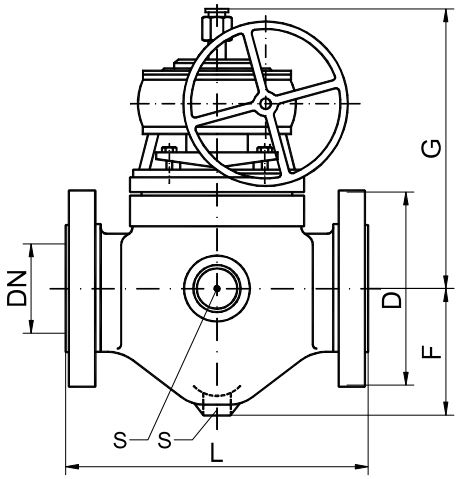
Taglia / size	Inch	6	8	10	12	16	20	24
DN	**mm**	**150**	**200**	**250**	**300**	**400**	**500**	**600**
L RF	mm	450	534	622	750	880	995	1220
D	mm	280	343	406	483	597	775	813
F	mm	165	305	330	360	430	530	560
G	mm	530	570	610	610	700	810	960
Handwheel diameter	mm	500	650	650	650	650	800	800
Weight (approx.)	Kg	300	430	530	880	2500	3600	5000

S x ” 9D8 5S flS ” x ” ” fl zx flzfk flfl Qzzfkfl
S x 9D8 5i ”” V Zxz ” ”“ y “ ff 6



c “” h”à x ” 5Q b” x 7h”à x f x ” 5b” ” e ” x ””

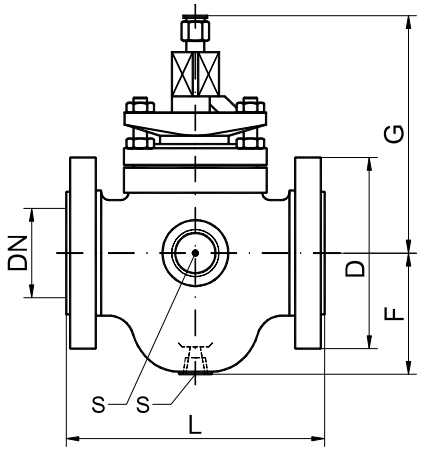
Taglia / size	Inch	3 x 2	4 x 3	6 x 4
DN	**mm**	**80 x 50**	**100 x 80**	**150 x 100**
L RF	mm	240	300	390
D	mm	191	229	279
F	mm	120	150	180
G	mm	255	305	335
S	inch	1	1	1
J ⧄	mm	32	38	44
Weight (approx.)	Kg	41	72	120



c “” h”à x ” 5S hff ” 7h”à x f x ” 5W’x e ” x ””

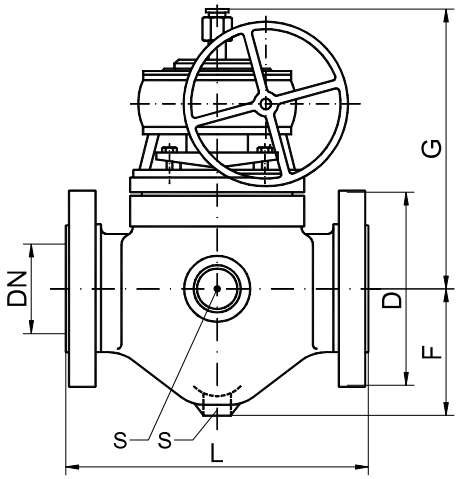
Taglia / size	Inch	8x6	10x8
DN	**mm**	**200x150**	**250x200**
L RF	mm	450	530
D	mm	343	406
F	mm	230	270
G	mm	510	550
S	inch	1	1
Handwheel diameter	mm	500	650
Weight (approx.)	Kg	240	285

S x ″ B88 5S flS ″ x ″ ″ fl zx flzfk fffl Qzzfkfl
S x B88 5i ″″ V Zxz ″ ″″ y “ff 6



c “” h″à x ″ 5Q b″ x 7h″à x f x ″ 5b″ ″ e ″ x ″“

Taglia / size	Inch	3 x 2	4 x 3	6 x 4
DN	**mm**	**80 x 50**	**100 x 80**	**150 x 100**
L RF	mm	240	300	390
D	mm	210	254	318
F	mm	120	150	180
G	mm	245	295	335
S	inch	1	1	1
J ⧄	mm	32	38	44
Weight (approx.)	Kg	58	91	147



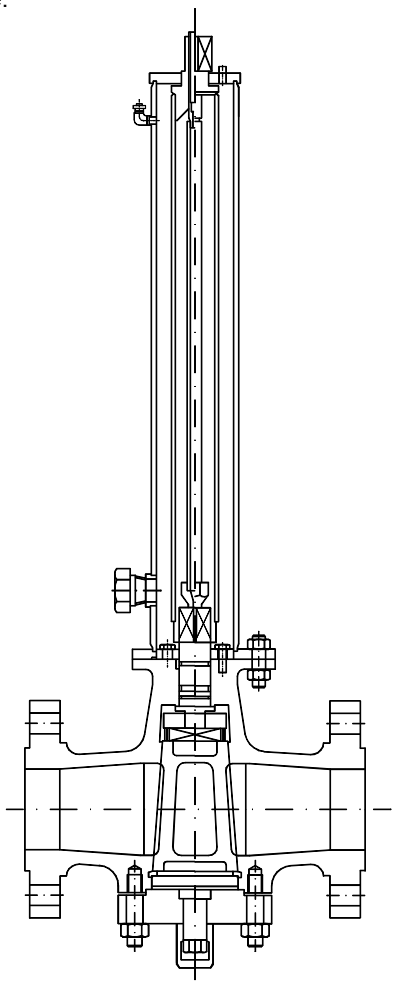
c “” h″à x ″ 5S hff ″ 7h″à x f x ″ 5W″x e ″ x ″“

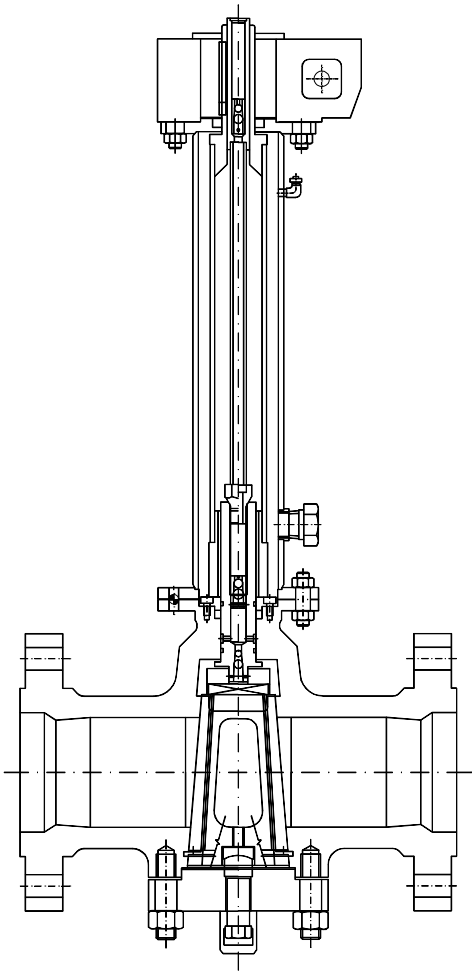
Taglia / size	Inch	8x6	10x8
DN	**mm**	**200x150**	**250x200**
L RF	mm	450	530
D	mm	381	445
F	mm	230	270
G	mm	515	545
S	inch	1	1
Handwheel diameter	mm	500	650
Weight (approx.)	Kg	260	315

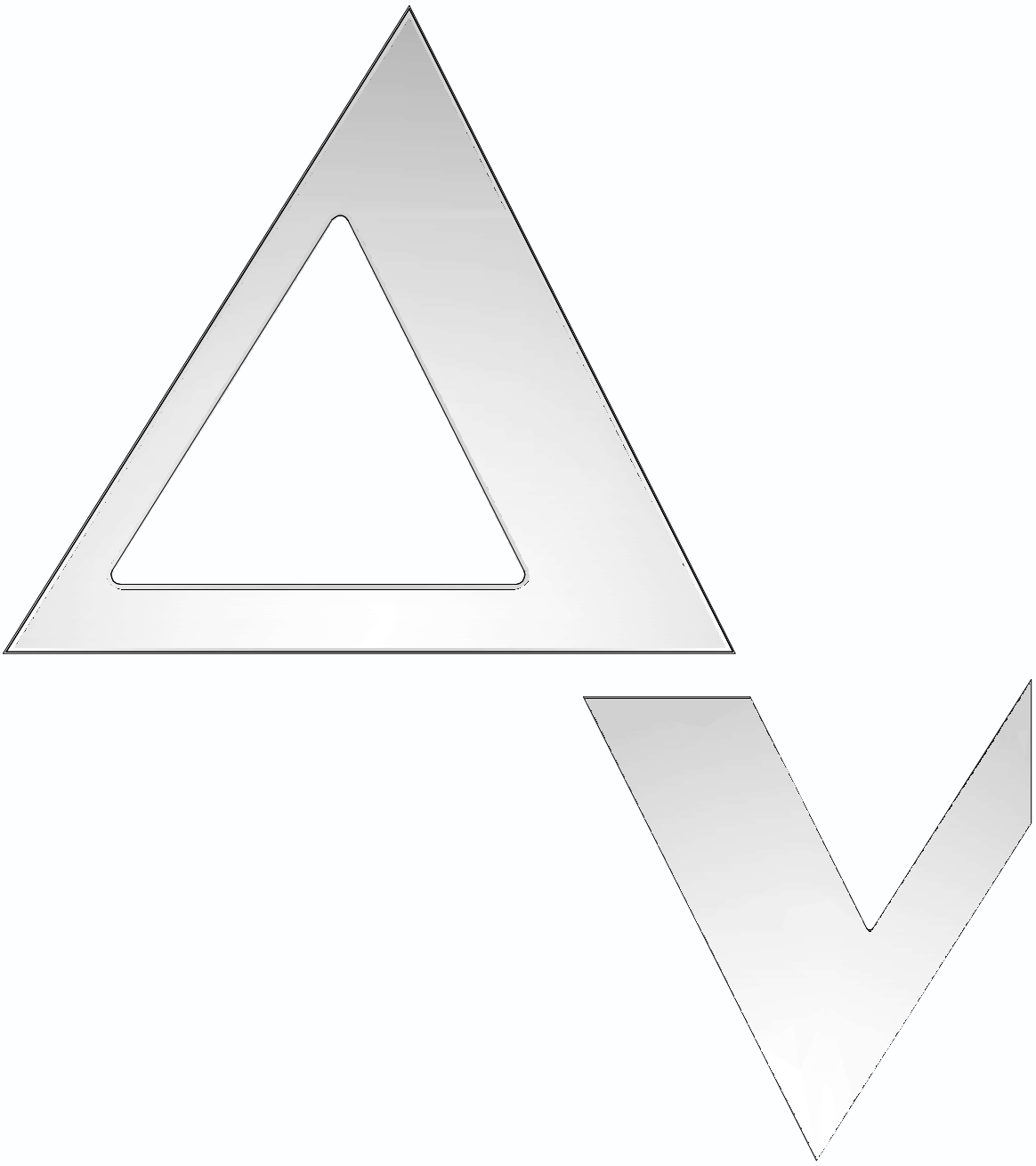
f à fi” ”
” x ” x x zfifl y fl zx ”
z ” x ff” ”
” fl x x fl ” fl ” x x
U ” fl ”
° ” ” x “ à” x ” x ” “
y fl zx ” “ à x ”
° y ff” “ fl x x fl

Le prolunghe sono realizzate per essere installate su steli standard azionati da leva, in caso di installazione interrata della valvola a maschio o in caso di installazione della valvola in luoghi di impianto dove un normale accesso di manovra non è possibile. Le estensioni delle valvole per servizi sotterranei includono tubazioni per la lubrificazione e sono fornite con guarnizioni a tenuta stagna. La lunghezza dell’estensione deve essere consigliata dal cliente. Come già descritto nel caso delle valvole ad azionamento a leva, queste prolunghe sono adatte anche per le valvole a maschio con riduttore. La prolunga dello stelo è simile a quella per la leva. La posizione dell’otturatore è segnalata da un indicatore posto sulla parte superiore della cassa del riduttore.

Extended stems are made to be installed on lever operated standard stems, in case of buried installation of the plug valve or in case of installation of the valve in plant locations where a normal access of manouver is not possible.
Valve extention for underground service include piping for lubrication and are supplied with water tight seals.
Extension lenght should be advised by customer.
As already described in case of lever operated valves, these extensions are suitable for the plug valves gear operated. The extension stem is similar to the previous one.
The position of plug is indicated by an indicator on the top of the gear box.







Tx fl"z fzfl7k"zfi fzx "x x

mx fl fl x fl“ fl ” fl ” 5 ” ” x x
” x ” fl xzzfkfl x zx y fl fl Qi kc QA9E n SR
0Qi c UR9E6BC1

f ” ” 5 ” ” x ”
x fl à° zx y ”” x ” fl Qi kc QA9E n SR
0Qi c UR9E6BC1

TEMPERATURA TEMPERATURE MASSIME IN BAR PER CLASSE DI PRESSIONE
TEMPERATURE WORKING PRESSURE IN BAR BY CLASS

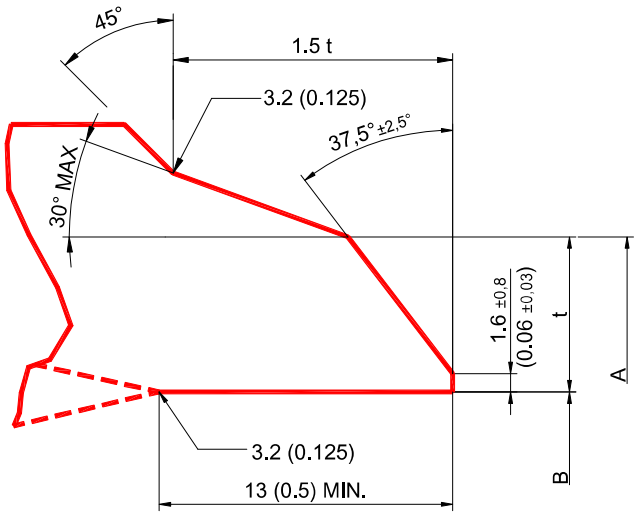
in °C	150	300	600	900	1500	2500	4500
- 29 fino a / to 38	19.6	51.1	102.1	153.2	255.3	425.5	765.9
50	19.2	50.1	100.2	150.4	250.6	417.7	751.9
100	17.7	46.6	93.2	139.8	233.0	388.3	699.0
150	15.8	45.1	90.2	135.2	225.4	375.6	676.1
200	13.8	43.8	87.6	131.4	219.0	365.0	657.0
250	12.1	41.9	83.9	125.8	209.7	349.5	629.1
300	10.2	39.8	79.6	119.5	199.1	331.8	597.3
325	9.3	38.7	77.4	116.1	193.6	322.6	580.7
350	8.4	37.6	75.1	112.7	187.8	313.0	563.5
375	7.4	36.4	72.7	109.1	181.8	303.1	545.5
400	6.5	34.7	69.4	104.2	173.6	289.3	520.8
425	5.5	28.8	57.5	86.3	143.8	239.7	431.5
450	4.6	23.0	46.0	69.0	115.0	191.7	345.1
475	3.7	17.4	34.9	52.3	87.2	145.3	261.5
500	2.8	11.8	23.5	35.3	58.8	97.9	176.3
538	1.4	5.9	11.8	17.7	29.5	49.2	88.6

TEMPERATURA TEMPERATURE MASSIME IN PSI PER CLASSE DI PRESSIONE
TEMPERATURE WORKING PRESSURE IN PSI BY CLASS

in °F	150	300	600	900	1500	2500	4500
- 20 fino a / to 100	285	740	1480	2220	3705	6170	11110
200	260	680	1360	2035	3395	5655	10185
300	230	655	1310	1965	3270	5450	9815
400	200	635	1265	1900	3170	5280	9505
500	170	605	1205	1810	3015	5025	9040
600	140	570	1135	1705	2840	4730	8515
650	125	550	1100	1650	2745	4575	8240
700	110	530	1060	1590	2665	4425	7960
750	95	505	1015	1520	2535	4230	7610
800	80	410	825	1235	2055	3430	6170
850	65	320	640	955	1595	2655	4785
900	50	230	460	690	1150	1915	3455
950	35	135	275	410	685	1145	2055
1000	20	85	170	255	430	715	1285

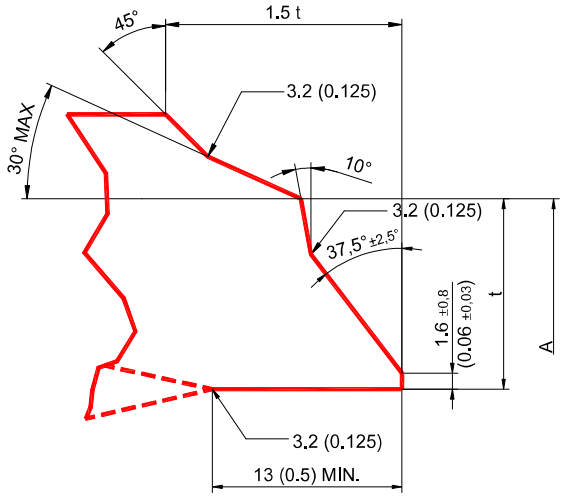
f " x x fl " x "x " " " fl x x"x " Rn
0Qi c UR9E6AD1
i x "x " " x x fl ° x " R n" "fl à" "
0Qi c UR9E6AD1

kfl Q 7k " Q



Per spessori (t) da 4.8 (0.188) a 22.2 (0.875) Incluso
For wall thickness (t) 4.8 (0.188) to 22.2 (0.875) Inclusive

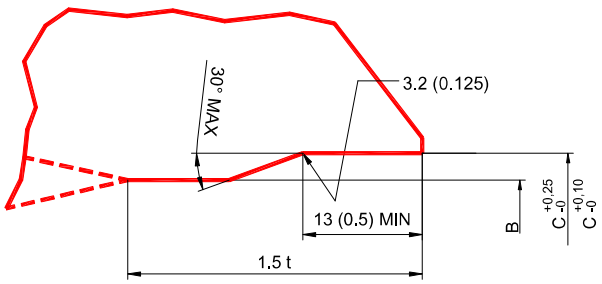
kfl R 7k " R



Per spessori (t) maggiori di 22.2 (0.875)

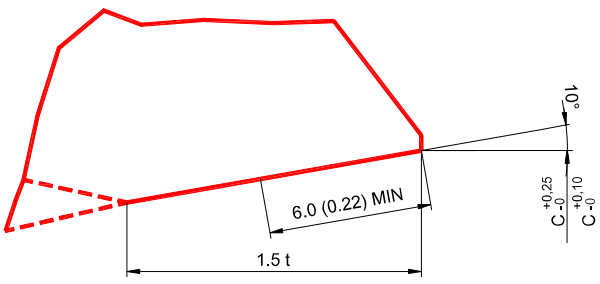
For wall thickness (t) greater than 22.2 (0.875)

kfl S 7k " S



Contorno interno per l'uso con anello di supporto rettangolare.
Inside contour for use with rectangular backing ring.

kfl T 7k " T



Contorno interno per l'uso con anello di supporto conico.
Inside contour for use with taper backing ring.

Le dimensioni lineari sono in millimetri; In parentesi le misure in pollici.
Linear dimensions are in millimeters, in parenthesi dimensions in inches

Dimensione nominale tubo	D,est nominale tubo	Numero di schedula	D,est (valvole da fusione) - ØA	D,int nominale tubo - ØB	D,int lavorato - ØC	Spessore t
Normal pipe size	Nominal pipe OD	Schedule number	O.D. - (ØA) (Cast steel valve)	Nominal pipe ID ØB	Machined inside diameter - ØC	Wall thickness t
-	-	-	mm	mm	mm	mm
2 1/2''	73.02	40	75.0	62.70	62.95	5.15
		80		59.00	59.70	7.00
		160		54.00	55.30	9.50
		XXS		45.00	47.45	14.00
3''	88.90	40	91.3	77.90	78.25	5.50
		80		73.70	74.50	7.60
		160		66.65	68.40	11.10
		XXS		58.40	61.20	15.25
4''	114.3	40	117.5	102.30	102.70	6.00
		80		97.20	98.25	8.60
		120		92.00	93.80	11.10
		160		87.30	89.65	13.50
		XXS		80.10	83.30	17.10
5''	141.3	40	144.5	128.20	128.80	6.55
		80		122.20	123.60	9.50
		120		115.90	118.05	12.70
		160		109.50	112.45	15.90
		XXS		103.20	106.90	19.00
6''	168.27	40	172.2	154.10	154.80	7.10
		80		146.30	148.05	12.00
		120		139.70	142.25	14.30
		160		131.75	135.30	18.25
		XXS		124.40	128.85	21.95
8''	219.07	40	223.0	202.70	203.70	8.20
		60		198.45	199.95	10.30
		80		193.70	195.80	12.70
		100		188.90	191.60	15.05
		120		182.55	186.10	18.25
		140		177.80	181.95	20.60
		XXS		174.60	179.15	22.20
		160		173.10	177.75	23.00
10''	273.05	40	277.8	254.50	255.80	9.30
		60		247.65	249.80	12.70
		80		242.90	245.60	15.00
		100		236.50	240.05	18.25
		120		230.20	234.05	21.40
		140		222.30	227.55	25.40
		160		215.90	222.00	28.60

Dimensione nominale tubo	D,est nominale tubo	Numero di schedula	D,est (valvole da fusione) - ØA	D,int nominale tubo - ØB	D,int lavorato - ØC	Spessore t
Normal pipe size	Nominal pipe OD	Schedule number	O.D. - (ØA) (Cast steel valve)	Nominal pipe ID ØB	Machined inside diameter - ØC	Wall thickness t
-	-	-	mm	mm	mm	mm
12"	323.85	STD	329.40	304.80	306.15	9.50
		40		303.20	304.75	10.30
		XS		298.50	300.60	12.70
		80		288.90	292.25	17.50
		100		281.00	285.30	21.45
		120		273.1	278.35	25.40
		140		266.70	272.80	28.60
		160		257.20	264.50	33.30
14"	355.60	STD	362.00	336.50	337.90	9.50
		40		333.35	335.10	11.10
		XS		330.2	332.35	12.70
		60		325.40	328.15	15.10
		80		317.50	321.20	19.05
		120		300.20	305.90	27.80
		140		292.10	299.00	31.75
		160		284.20	292.05	35.70
16"	406.40	STD	412.80	387.30	388.70	9.52
		40		381.00	383.15	12.70
		60		373.10	376.20	16.70
		80		363.50	367.85	21.40
		100		354.00	359.55	26.20
		120		344.50	351.20	31.00
		140		333.35	341.45	36.50
		160		325.40	334.50	40.50
18"	457.20	40	464.30	428.70	431.15	14.30
		60		419.10	422.80	19.05
		80		409.55	414.50	23.80
		100		398.50	404.75	29.40
		120		387.35	395.05	34.90
		140		377.85	386.70	39.70
		160		366.70	377.00	45.20
20"	508.0.0	40	515.90	477.80	480.55	15.10
		60		466.75	470.85	20.60
		80		455.60	461.15	26.20
		100		442.90	450.00	32.50
		120		431.80	440.30	38.10
		140		419.10	429.15	44.45
		160		408.00	419.45	50.00
24"	609.60	30	619.25	581.10	583.55	14.30
		40		574.60	578.00	17.50
		60		560.40	565.50	24.60
		80		547.70	554.40	31.00
		100		531.80	540.50	38.90
		120		517.60	528.00	46.00
		140		504.90	516.90	42.40
		160		490.50	504.35	59.50

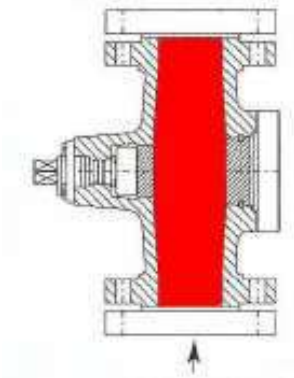
S x “ fl7k”

PRESSIONI DI COLLAUDO (API 598) / TEST PRESSURES (API 598)

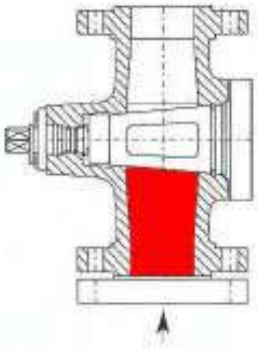
CLASSE VALVOLA VALVE RATING	MASSIMA P.L.F. MAXIMUM C.W.P.	MIN. PRESSIONE DI COLLAUDO CORPO BODY TEST (minimum)	MIN. PRESSIONE DI COLLAUDO SEDE SEAT TEST (minimum)
	bar	bar	bar
CLASSE 150 / CLASS 150	18.9	29.3	20.7
CLASSE 300 / CLASS 300	49.6	75.8	55.1
CLASSE 600 / CLASS 600	93.3	150	110.3
CLASSE 800 / CLASS 800	132.4	199	147
CLASSE 900 / CLASS 900	149	224	165.5
CLASSE 1500 / CLASS 1500	248.2	372.3	275.8
CLASSE 2500 / CLASS 2500	413.7	620.5	455
* API 2000	138	276	138
* API 3000	207	414	207
* API 5000	345	690	345

Le pressioni per la classe 800 sono date da API 598, le pressioni per le API da API 6A, mentre tutte le altre da ANSI B16.34
Class 800 pressures are taken from API 598, API pressures are taken from API 6A, all other pressures are taken from ANSI B16.4

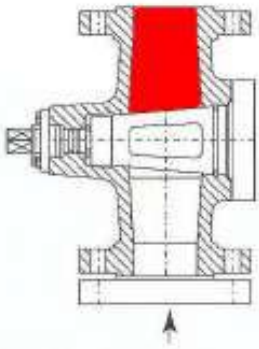
Se bbQl Te Se hf e
Re Tp kUi k



f he mQ TYkUdl kQ
i UQbYdWkUi k



f he mQ f dUl c QkYSQ
f dUl c QkYS kUi k



Durata delle prove in pressione richieste / Duration of required test pressure

TAGLIA VALVOLA VALVE SIZE		DURATA MINIMA DELLE PROVE (SECONDI) / MINIMUM TESTS DURATION (SECONDS) API 598			
DN	NPS	Corpo Shell	Sede posteriore (per valvole dotate di sede posteriore) backseat (for valve with backseat feature)	Tenuta per valvole di ritegno Closure check valves	Tenuta altre valvole Closure other valves
< = 50 mm	< = 2“	15	15	60	15
65 ÷ 150 mm	2 1/2“÷6“	60	60	60	60
200 ÷ 300 mm	8“÷12“	120	60	120	120
> = 350 mm	> = 14“	300	60	120	120

La durata della prova è il l’intervallo di tempo di ispezione dopo che la valvola è pronta ed è sottoposta alla massima pressione.
The test duration is the period of ispection after the valve is fully prepared and is under full pressure.

Queste durate verranno rispettate a meno che non sia richiesta una specificadiversa per un ordine particolare.
These durations will be adhered to unless a different specification is required against a particular order.
Il sigillante per le valvole a maschio deve essere iniettato prima dell’inizio della prova.
Plug sealant should be injected before test starting.

bfl x x ″ fk fl

	Fusione	Forgiato		Forgiato	Lamiera
Corpo	A216 WCB	A105	**Stelo**	AISI 1040	
	A216 WCC			AISI 4140	
	A352 LCB			AISI 9840	
	A352 LCC	A350 LF 2		F316 Type 630	
Otturatore	A216 WCB	A105	**Chiusura**	A105	A516 Gr 60
	A352 LCB	A350 LF 2			St.52.2 DIN 17100
	A352 LCC				Fe 510 UNI 7070
	A351 CF8M	F316			A350 LF 2
	A 747 Gr CB 7 CU 1	A705 Type 630			
			Bulloneria	A193 B7	A194 Gr 2H
				A193 B7M	A194 Gr 2HM
				A320 L7	A194 Gr 4
				A320 L7M	A194 Gr 4M
				A705 Type 630	
				Monel K500	

1) Altri materiali non indicati in tabella possono essere forniti su richiesta.
2) Le valvole a maschio per servizio acido saranno fornite con materiali conformi alla NACE MR.01.75

kxy ″ x y fl zx fl ″ fa fl x fl

Tipo	Colore	Temperatura d'impiego	Uso consigliato	Non usare con
3	Crema	- 10 °C fino a + 230 °C	Prodotti petroliferi, butano, propano, benzina, chero-sene, oli e la maggior parte dei solventi idrocarburici. Adatto anche per gas (max. 170 °C).	Alcali forti, arom e solventi
4	Bianco	- 10 °C fino a + 70 °C	Strong acids (incl. nitrating) and alkalis, acetone and alcohols	Aromatici e molti solventi alfatici
5	marrone	- 15 °C fino a + 220 °C	Prodotti petroliferi, condensa di gas naturale, gas acidi, la maggior parte dei solventi idrocarburici ed alcune soluzioni acquose.	Alcali forti, arom e solventi
6	Crema	- 10 °C fino a + 120 °C	Solventi clorurati ed aromatici General chemical aChlorinated and aromatic solvents	soluzioni acquose
7	Nero	- 15 °C fino a + 220 °C	Soluzioni acquose in generale, cioè alcali, acidi diluiti, acqua, idoneo anche per gas (max. 150 °C).	Acidi forti, prodotti petroliferi, solventi
8	Nero	- 10 °C fino a + 200 °C	Applicazioni con acqua ad alta e bassa pressione	Acidi forti, prodotti petroliferi, solventi
9	Nero	- 10 °C fino a + 300 °C	Gas caldi ed applicazioni per alta temperatura; anche aria calda (max 220 °C)	Solventi

1) Le informazioni della tabella sono puramente indicative
2) Le condizioni operative devono essere specificate in fase di richiesta

BASTONCINI LUBRIFICANTI
Tutti i bastoncini lubrificanti sono idonei per la lubrificazione delle valvole con otturatore a maschio

Diametro bastoncino	mm 6	mm 10	mm 13	mm 16
Dimensione scatola	A	B	C	D
Q.tà bastoncini / scatola	24	24	24	24

c x ″ fk bfl

	Casting	Forging		Forging	Plate
Body	A216 WCB	A105	**Stem**	AISI 1040	
	A216 WCC			AISI 4140	
	A352 LCB			AISI 9840	
	A352 LCC	A350 LF 2		F316 Type 630	
Plug	A216 WCB	A105	**Cover**	A105	A516 Gr 60
	A352 LCB	A350 LF 2			St.52.2 DIN 17100
	A352 LCC				Fe 510 UNI 7070
	A351 CF8M	F316			A350 LF 2
	A 747 Gr CB 7 CU 1	A705 Type 630			
			Bolting	A193 B7	A194 Gr 2H
				A193 B7M	A194 Gr 2HM
				A320 L7	A194 Gr 4
				A320 L7M	A194 Gr 4M
				A705 Type 630	
				Monel K500	

1) Other materials not listed above can be supplied on request.
2) Plug valves for sour service will have materials in compliance with NACE MR.01.75.

b y fzx x “ ″x x xy ″

Type	Colour	Temperature range	Recommended use	Do not use on
3	Cream	- 10 °C to + 230 °C	Petroleum products, butane, propane, gasoline, Kerosene, oils and most hydrocarbon solvents. Also suitable for gases (max. 170 °C)	Strong alkalis, arom, solvents
4	White	- 10 °C to + 70 °C	Strong acids (incl. nitrating) and alkalis, acetone and alcohols	Aromatic and most alphatic solvent
5	Brown	- 15 °C to + 220 °C	Petroleum products, natural gas condensate, sour gas most hydrocarbon solvents and certain aqueous solutions	Strong alkalis, arom, solvents
6	Cream	- 10 °C to + 120 °C	General chemical aChlorinated and aromatic solvents	Aqueous solutions
7	Black	- 15 °C to + 220 °C	General chemical aqeous solutions eg., alkalis, dilute acids, water. Also suitable for gases (max. 150 °C).	Strong acids, petroleum products, solvents
8	Black	- 10 °C to + 200 °C	Hot and high pressure water applications	Strong acids, petroleum products, solvents
9	Black	-10 °C to + 300 °C	Hot gases and high yemperature applications. Also hot air (max 220 °C)	Solvents

1) Conditions of the above table are only indicative;
2) The operating conditions must be specified at the enquiry stage.

LUBRIFICANT STICKS
All stick lubricants are suitable for lubrication of the plug valve.

Stick Diameter	mm 6	mm 10	mm 13	mm 16
Box Size	A	B	C	D
Q.ty of stick in box	24	24	24	24

S fl fl " zfifl fłzx " xzzfłkflx zx y fl " xzzfłkfl "àx fl
Sfi" fłzx " fl" " ° zx y x " x ""

ASTM COMPOSIZIONE CHIMICA / CHEMICAL COMPOSITION

	C	Mn	Si	P	S	Cr	Ni	Mo	Cu
A216 WCB (2)	0.30	1.00	0.60	0.04	0.045	0.50	0.50	0.20	0.30
A216 WCC (3)	0.25	1.20	0.60	0.04	0.045	0.50	0.50	0.20	0.30
A352 LCB (2)	0.30	1.00	0.60	0.04	0.045	0.50	0.50	0.20	0.30
A217 WC1	0.25	0.50 ÷ 0.80	0.60	0.04	0.045		-	0.45 ÷ 0.65	-
A217 WC6	0.20	0.50 ÷ 0.80	0.60	0.04	0.045	1.00 ÷ 1.50	-	0.45 ÷ 0.65	-
A217 WC9	0.18	0.40 ÷ 0.70	0.60	0.04	0.045	2.00 ÷ 2.75	-	0.90 ÷ 1.20	-
A217 C5	0.20	0.40 ÷ 0.70	0.75	0.04	0.045	4.00 ÷ 6.50	-	0.45 ÷ 0.65	-
A217 C12	0.20	0.35 ÷ 0.65	1.00	0.04	0.045	8.00 ÷ 10.00	-	0.90 ÷ 1.20	-
A217 CA15	0.15	1.00	1.50	0.04	0.04	11.50 ÷ 14.00	1.00	0.50	-
A351 CF3	0.03	1.50	2.00	0.04	0.04	17.00 ÷ 21.00	8.00 ÷ 12.00	-	-
A351 CF3M	0.03	1.50	1.50	0.04	0.04	17.00 ÷ 21.00	9.00 ÷ 13.00	2.00 ÷ 3.00	-
A351 CF8	0.08	1.50	2.00	0.04	0.04	18.00 ÷ 21.00	8.00 ÷ 11.00	-	-
A351 CF8C (1)	0.08	1.50	2.00	0.04	0.04	18.00 ÷ 21.00	9.00 ÷ 12.00	-	-
A651 CF8M	0.08	1.50	1.50	0.04	0.04	18.00 ÷ 21.00	9.00 ÷ 12.00	2.00 ÷ 3.00	-
A182 F6	0.12	1.00	1.00	0.04	0.03	11.50 ÷ 13.50	0.50	-	-
A182 F304	0.08	2.00	1.00	0.04	0.03	18.00 ÷ 20.00	8.00 ÷ 11.00	-	-
A182 F316	0.08	2.00	1.00	0.04	0.03	16.00 ÷ 18.00	10.00 ÷ 14.00	2.00 ÷ 3.00	-
A193 B7	0.38 ÷ 0.48	0.75 ÷ 1.00	0.20 ÷ 0.35	0.04	0.04	0.75 ÷ 1.20	-	0.15 ÷ 0.25	-
A193 B16	0.36 ÷ 0.44	0.45 ÷ 0.70	0.20 ÷ 0.35	0.04	0.05	0.80 ÷ 1.15	V: 0.25 ÷ 0.35	0.50 ÷ 0.65	-
A320 L7	0.38 ÷ 0.48	0.75 ÷ 1.00	0.20 ÷ 0.35	0.04	0.04	0.80 ÷ 1.10	-	0.15 ÷ 0.25	-
A307 B	-	-	-	0.04	0.05				
A194 2H	min. 0.40	1.00	.040	0.04	0.05	-	-	-	-
A194 4	0.40 ÷ 0.50	0.50 ÷ 0.80	0.20 ÷ 0.35	0.035	0.04	-	-	0.20 ÷ 030	-

I valori indicati in tabella sono i valori massimi, a meno che non sia indicato un intervallo di valori o sia esplicitamente scritto che sia un valore minimo.
Element %, are the maximum content, except when the range is given or when is explicitly indicated that is the minimum content

(1) Il grado CF8C deve contenere un tenore di colombio pari a non meno di 8 volte il tenore di carbonio ma comunque non oltre l' 1.00 %
Grade CF8C shall have a columbium content of not less than 8 times the carbon content but not over 1.00 %

(2) Per ogni riduzione dello 0.01% rispetto al valore max. del tenore di carbonio, è consentito un incremento dello 0.04% del tenore di manganese oltre il massimo indicato in tabella, fino ad un massimo del 1.28%
For each reduction of 0.01 % below the specified maximum carbon content an increase of 0.04 % Mn above the speci fied maximum will be permitted up to a maximum of 1.28 %

(3) Per ogni riduzione dello 0.01% rispetto al valore max. del tenore di carbonio, è consentito un incremento dello 0.04% del tenore di manganese oltre il massimo indicato in tabella, fino ad un massimo del 1.40%
For each reduction of 0.01 % below the specified maximum carbon content an increase of 0.04 % Mn above the speci fied maximum will be permitted up to a maximum of 1.40 %

Sx x " fl flzfi" "zzx flzfi"
" xzzfkflx zx y fl "xzzfkfl"àx fl
c "zfix flzx " fl° zx y x " x ""

CARATTERISTICHE MECCANICHE
MECHANICAL PROPERTIES

	Tensile Strenght	Yield Point	Elongation	Reduction Area
	[N/mm ^{2}] - min	[N/mm ^{2}] - min	min %	min %
A216 WCB (2)	485	250	22	35
A216 WCC (3)	485	275	22	35
A352 LCB (2)	450	240	24	35
A217 WC1	450	240	24	35
A217 WC6	485	275	20	35
A217 WC9	485	275	20	35
A217 C5	620	415	18	35
A217 C12	680	415	18	35
A217 CA15	620	450	18	30
A351 CF3	482	206	35	-
A351 CF3M	482	206	30	-
A351 CF8	482	206	35	-
A351 CF8C (1)	482	206	30	-
A651 CF8M	482	206	30	-
A182 F6	482	274	20	45
A182 F304	515	206	30	50
A182 F316	515	206	30	50
A193 B7	860 (2 1/2 " and under)	720	16	50
A193 B16	860 (2 1/2 " and under)	720	18	50
A320 L7	860 (2 1/2 " and under)	720	16	50
A307 B	-			
A194 2H	-			
A194 4				

Nota:
Il carbonio equivalente (CE) viene calcolato con la seguente formula:

Remarks:
Carbon equivalent (CE) refers to the following formula:

$$CE = C + Mn / 6 + (Cr + Mo + v) / 5 + (Ni + Cu) / 15$$

S " fl " " " x " S 5 V6
k" " x " z " fl S 5 V

FORMULE PER CONVERSIONE TEMPERATURE - TEMPERATURES CONVERSION FORMULAS

Per convertire da / To convert from	A / To	Sostituire nella formula Substitute in formula
Gradi Celsius / Degrees Celsius - °C	Gradi Fahrenheit / Degrees Fahrenheit - °F	(°C x 9/5) + 32
Gradi Celsius / Degrees Celsius - °C	Kelvin - K	(°C + 273.15)
Gradi Fahrenheit / Degrees Fahrenheit - °F	Gradi Celsius / Degrees Celsius - °C	(°F -32) x (5 / 9)
Gradi Celsius / Degrees Celsius - °C	Gradi Rankin / Degrees Rankin - °R	(°F + 459.67)

CONVERSIONE TEMPERATURE / TEMPERATURES CONVERSIONS

°C	Temp. in °C o °F Da convertire To be converted	°F	°C	Temp. in °C o °F Da convertire To be converted	°F	°C	Temp. in °C o °F Da convertire To be converted	°F
-273.15	-459.69		-90.00	-130	-202.30	-17.80	0	32.0
-267.78	-450		-84.44	-120	-184.0	-16.70	2	35.6
-262.22	-440		-78.89	-110	-166.0	-15.60	4	39.2
-256.67	-430		-73.33	-100	-148.0	-14.40	6	42.8
-251.11	-420		-70.56	-95	-139.0	-13.30	8	46.4
-245.56	-410		-67.78	-90	-130.0	-12.20	10	50.0
-240.00	-400		-65.00	-85	-121.0	-11.10	12	53.6
-234.44	-390		-62.22	-80	-112.0	-10.00	14	57.2
-288.89	-380		-59.45	-75	-103.0	-8.89	16	60.8
-223.33	-370		-56.67	-70	-94.0	-7.78	18	64.4
-217.78	-360		-53.89	-65	-85.0	-6.67	20	68.0
-212.22	-350		-51.11	-60	-76.0	-5.56	22	71.6
-206.67	-340		-48.34	-55	-67.0	-4.44	24	75.2
-201.11	-330		-45.56	-50	-58.0	-3.33	26	78.8
-195.56	-320		-42.78	-45	-49.0	-2.22	28	82.4
-190.00	-310		-40.00	-40	-40.0	-1.11	30	86.0
-184.44	-200		-36.89	-38	-36.4	0.00	32	89.6
-178.89	-290		-37.78	-36	-32.8	1.11	34	93.2
-173.33	-280		-36.37	-34	-29.2	2.22	36	96.8
-169.53	-273.15	-459.0	-35.56	-32	-25.6	3.33	38	100.4
-168.89	-272	-457.6	-34.44	-30	-22.0	4.44	40	104.0
-167.78	-270	-454.0	-33.33	-28	-18.4	5.56	42	407.6
-162.22	-260	-436.0	-32.22	-26	-14.8	6.67	44	111.2
-156.67	-250	-418.0	-31.11	-24	-11.2	7.78	46	114.8
-151.11	-240	-400.0	-30.00	-22	-7.6	8.89	48	118.4
-145.56	-230	-372.0	-28.89	-20	-4.0	10.00	50	122.0
-140.00	-220	-364.0	-27.78	-18	-0.4	11.10	52	125.6
-134.44	-210	-346.0	-26.67	-16	3.2	12.20	54	129.2
-128.89	-200	-328.0	-25.56	-14	6.8	13.30	56	132.8
-123.33	-190	-310.0	-24.44	-12	10.4	14.40	58	136.4
-117.78	-180	-292.0	-23.33	-10	14	15.60	60	140.0
-112.22	-170	-274.0	-22.22	-8	17.6	16.70	62	143.6
-106.67	-160	-256.0	-21.11	-6	21.2	17.80	64	147.2
-101.11	-150	-238.0	-20.00	-4	24.8	18.90	66	150.8
-95.56	-140	-220.0	-18.89	-2	28.4	20.00	68	154.4

CONVERSIONE TEMPERATURE / TEMPERATURES CONVERSIONS

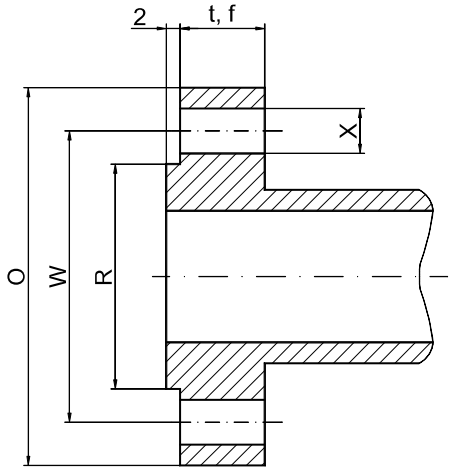
°C	Temp. in °C o °F Da convertire To be converted	°F	°C	Temp. in °C o °F Da convertire To be converted	°F	°C	Temp. in °C o °F Da convertire To be converted	°F
21.1	70	158.0	204.4	400	752.0	454.4	850	1562.0
22.2	72	161.6	210.4	410	770.0	460.0	860	1580.0
23.3	74	165.2	245.6	420	788.0	465.6	870	1598.0
24.4	76	168.8	221.1	430	806.0	471.1	880	1616.0
25.6	78	172.4	226.7	440	824.0	476.7	890	1634.0
26.7	80	176.0	232.2	450	842.0	482.2	900	1652.0
27.8	82	179.6	237.8	460	860.0	487.8	910	1670.0
28.9	84	183.2	243.3	470	878.0	493.3	920	1688.0
30.0	86	186.8	248.9	480	896.0	498.9	930	1706.0
31.1	88	190.4	254.4	490	914.0	504.4	940	1724.0
32.2	90	194.0	260.0	500	932.0	510.0	950	1742.0
33.3	92	197.6	265.6	510	950.0	515.6	960	1760.0
34.4	94	201.2	271.1	520	968.0	521.1	970	1778.0
35.6	96	204.8	276.7	530	986.0	526.7	980	1796.0
36.7	98	208.4	282.2	540	1004.0	532.2	990	1814.0
37.8	100	212.0	287.8	550	1022.0	537.8	1000	1832.0
43.3	110	230.0	293.3	560	1040.0	543.3	1010	1850.0
48.9	120	248.0	298.0	570	1058.0	548.9	1020	1868.0
54.4	130	266.0	304.4	580	1076.0	554.4	1030	1886.0
60.0	140	284.0	310.0	590	1094.0	560.0	1040	1904.0
65.6	150	302.0	315.6	600	1112.0	565.6	1050	1922.0
71.1	160	320.0	321.1	610	1130.0	571.1	1060	1940.0
76.7	170	338.0	326.7	620	1148.0	576.7	1070	1958.0
82.2	180	356.0	332.2	630	1166.0	582.2	1080	1976.0
87.8	190	374.0	337.8	640	1184.0	587.8	1090	1994.0
98.3	200	392.0	343.3	650	1202.0	593.3	1100	2012.0
98.9	210	410.0	348.9	660	1220.0	598.9	1110	2030.0
104.4	220	428.0	354.4	670	1238.0	604.4	1120	2048.0
110.0	230	446.0	360.0	680	1256.0	610.0	1130	2066.0
115.6	240	464.0	365.6	690	1274.0	615.6	1140	2084.0
121.1	250	482.0	371.1	700	1292.0	621.1	1150	2102.0
126.7	260	500.0	376.7	710	1310.0	626.7	1160	2120.0
132.2	270	518.0	382.2	720	1328.0	632.2	1170	2138.0
137.8	280	536.0	387.8	730	1346.0	637.8	1180	2156.0
143.3	290	554.0	393.3	740	1364.0	643.3	1190	2174.0
148.9	300	572.0	398.9	750	1382.0	648.9	1200	2192.0
154.4	310	590.0	404.4	760	1400.0	654.4	1210	2210.0
160.0	320	608.0	410.0	770	1418.0	660.0	1220	2228.0
165.5	330	626.0	415.6	780	1436.0	665.6	1230	2246.0
171.1	340	644.0	421.1	790	1454.0	671.1	1240	2264.0
176.7	350	662.0	426.7	800	1472.0	676.7	1250	2282.0
182.2	360	680.0	432.2	810	1490.0	682.2	1260	2300.0
187.8	370	698.0	437.8	820	1508.0	687.0	1270	2318.0
193.3	380	716.0	443.3	830	1526.0	693.0	1280	2336.0
198.9	390	734.0	448.9	840	1544.0	698.9	1290	2354.0

Tfl " fl fl x à" z à x" fl z x " 9D8 by 6 "z " QicUR9E6D
Tfl " fl °z x 9D8 by 6 x à" fl à xfl"" °xz" x " QicUR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	90	9.6	34.9	4	1/2	16	60.3
3/4	100	11.2	42.9	4	1/2	16	69.9
1	110	12.7	50.8	4	1/2	16	79.4
1 1/4	115	14.3	63.5	4	1/2	16	88.9
1 1/2	125	15.9	73.0	4	1/2	16	98.4
2	150	17.5	92.1	4	5/8	20	120.7
2 1/2	180	207	104.8	4	5/8	20	139.7
3	190	22.3	127.0	4	5/8	20	152.4
4	230	22.3	157.2	8	5/8	20	190.5
5	255	22.3	185.7	8	3/4	23	215.9
6	280	23.9	215.9	8	3/4	23	241.3
8	345	27.0	269.9	8	3/4	23	298.5
10	405	28.6	323.9	12	7/8	26	362.0
12	485	30.2	381.0	12	7/8	26	431.8
14	535	33.4	412.8	12	1	29	476.3
16	595	35.0	469.9	16	1	29	539.8
18	635	38.1	533.4	16	1 1/8	32	577.9
20	700	41.3	584.2	20	1 1/8	32	635.0
24	815	46.1	692.2	20	1 1/4	35	749.3

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



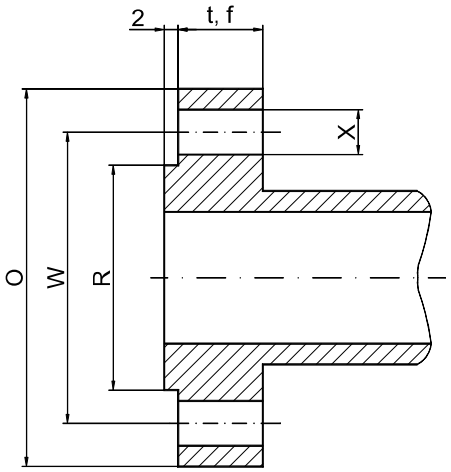
O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter

Tfl ” fl fl x à” z à x“ fl z x ” B88 by 6 ”z “ Qi c UR9E6D
Tfl ” fl °z x B88 by 6 x à” fl à xfl”“ °xz” x ” Qi c UR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	95	12.7	34.9	4	1/2	16	66.7
3/4	105	14.3	42.9	4	5/8	20	82.6
1	125	15.9	50.8	4	5/8	20	88.9
1 1/4	135	17.5	63.5	4	5/8	20	98.4
1 1/2	155	19.1	73.0	4	3/4	23	114.3
2	165	20.7	92.1	8	5/8	20	127.0
2 1/2	190	23.9	104.8	8	3/4	23	149.2
3	210	27.0	127.0	8	3/4	23	168.3
4	255	30.2	157.2	8	3/4	23	200.0
5	280	33.4	185.7	8	3/4	23	235.0
6	320	35.0	215.9	12	3/4	23	269.9
8	380	39.7	269.9	12	7/8	26	330.2
10	445	46.1	323.9	16	1	29	387.4
12	520	49.3	381.0	16	1 1/8	32	450.8
14	585	52.4	412.8	20	1 1/8	32	514.4
16	650	55.6	469.9	20	1 1/4	35	571.5
18	710	58.8	533.4	24	1 1/4	35	628.6
20	775	62.0	584.2	24	1 1/4	35	685.8
24	915	68.3	692.2	24	1 1/2	42	812.8

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



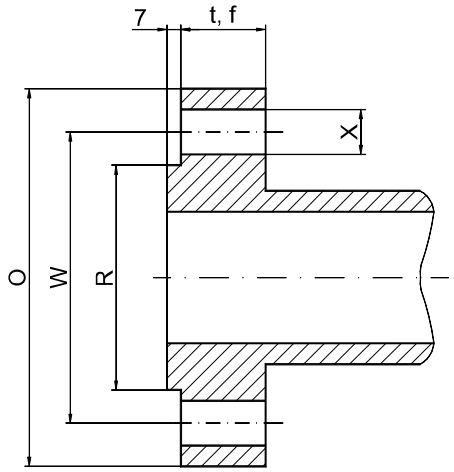
O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter

Tfl ” fl fl x à” z à x“fl z x ” E88 by 6 ”z “ Qi c UR9E6D
Tfl ” fl °z x E88 by 6 x à” fl à xfl”“ °xz” x ” Qi c UR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	95	14.3	34.9	4	1/2	16	66.7
3/4	115	15.9	42.9	4	5/8	20	82.6
1	125	17.5	50.8	4	5/8	20	88.9
1 1/4	135	20.7	63.5	4	5/8	20	98.4
1 1/2	155	22.3	73.0	4	3/4	23	114.3
2	165	25.4	92.1	8	5/8	20	127.0
2 1/2	190	28.6	104.8	8	3/4	23	149.2
3	210	31.8	127.0	8	3/4	23	168.3
4	275	38.1	157.2	8	7/8	26	215.9
5	330	44.5	185.7	8	1	29	266.7
6	355	47.7	215.9	12	1	29	292.1
8	420	55.6	269.9	12	1 1/8	32	349.2
10	510	63.5	323.9	16	1 1/4	35	431.8
12	560	66.7	381.0	20	1 1/4	35	489.0
14	605	69.9	412.8	20	1 3/8	39	527.0
16	685	76.2	469.9	20	1 1/2	42	603.2
18	745	82.6	533.4	24	1 5/8	45	654.0
20	915	88.9	584.2	24	1 5/8	45	723.9
24	940	101.6	692.2	24	1 7/8	51	838.2

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter

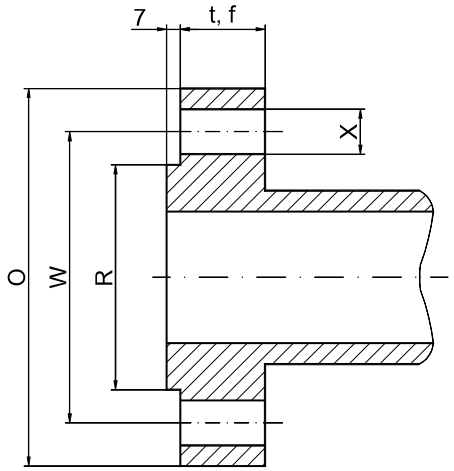
Tfl " fl fl x à" z à x" fl z x " H88 by 6 "z " Qic UR9E6D
Tfl " fl °z x H88 by 6 x à" fl à xfl"" °xz" x " Qic UR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	120	22.3	34.9	4	3/4	23	82.6
3/4	130	25.4	42.9	4	3/4	23	88.9
1	150	28.6	50.8	4	7/8	26	101.6
1 1/4	160	28.6	63.5	4	7/8	26	111.1
1 1/2	180	31.8	73.0	4	1	29	123.8
2	215	38.1	92.1	8	7/8	26	165.1
2 1/2	245	41.3	104.8	8	1	29	190.5
3	240	31.8	127.0	8	7/8	26	190.5
4	290	38.1	157.2	8	1 1/8	32	235.0
5	350	44.5	185.7	8	1 1/4	35	279.4
6	380	47.7	215.9	12	1 1/8	32	317.5
8	470	55.6	269.9	12	1 3/8	39	393.7
10	545	63.5	323.9	16	1 3/8	39	469.9
12	610	66.7	381.0	20	1 3/8	39	533.4
14	640	69.9	412.8	20	1 1/2	42	558.8
16	705	76.2	469.9	20	1 5/8	45	616.0
18	785	82.6	533.4	20	1 7/8	51	685.8
20	855	88.9	584.2	20	2	54	749.3
24	1040	101.6	692.2	20	2 7/8	67	901.7

Per queste taglie si utlizzano le dimensioni della classe 1500 Lbs / Use class 1500 Lbs dimensions for these sizes

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



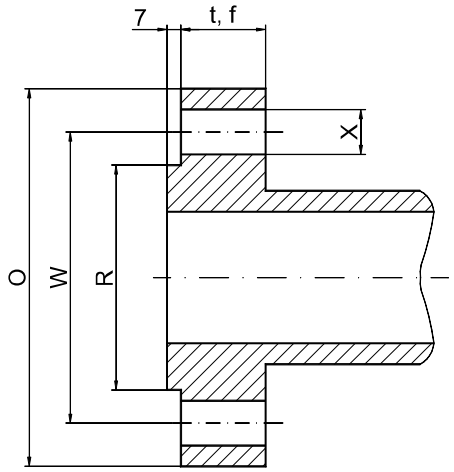
O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter

Tfl " fl fl x à" z à x" fl z x " 9D88 by 6 "z " QicUR9E6D
Tfl " fl °z x 9D88 by 6 x à" fl à xfl"" °xz" x " QicUR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	120	22.3	34.9	4	3/4	23	82.6
3/4	130	25.4	42.9	4	3/4	23	88.9
1	150	28.6	50.8	4	7/8	26	101.6
1 1/4	160	28.6	63.5	4	7/8	26	111.1
1 1/2	180	31.8	73.0	4	1	29	123.8
2	215	38.1	92.1	8	7/8	26	165.1
2 1/2	245	41.3	104.8	8	1	29	190.5
3	265	47.7	127.0	8	1 1/8	32	203.2
4	310	54.0	157.2	8	1 1/4	35	241.3
5	375	73.1	185.7	8	1 1/2	42	292.1
6	395	82.6	215.9	12	1 3/8	39	317.5
8	485	92.1	269.9	12	1 5/8	45	393.7
10	585	108.0	323.9	12	1 7/8	51	482.6
12	675	123.9	381.0	16	2	54	571.5
14	750	133.4	412.8	16	2 1/4	61	635.0
16	825	146.1	469.9	16	2 1/2	77	704.8
18	915	162.0	533.4	16	2 3/4	74	774.7
20	985	177.8	584.2	16	3	80	831.8
24	1170	203.2	692.2	16	3 1/2	93	990.6

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



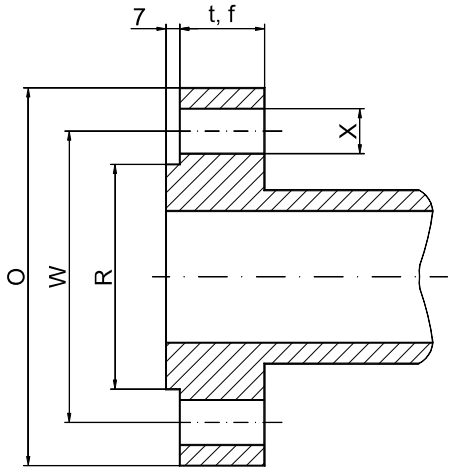
O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter

Tfl " fl fl x à" z à x" fl z x " AD88 by 6 "z " Qi c UR9E6D
Tfl " fl °z x AD88 by 6 x à" fl à xfl"" °xz" x " Qi c UR9E6D

FLANGE IN ACCIAIO FUSO CON GRADINO CLASSE 150
CLASS 150 CAST STEEL RAISED FACE FLANGES

Taglia valvola Valve size	O mm	t , f mm	R mm	N	V inches	X mm	W mm
1/2	135	30.2	34.9	4	3/4	23	88.9
3/4	140	31.8	42.9	4	3/4	23	95.2
1	160	35.0	50.8	4	7/8	26	108.0
1 1/4	185	38.1	63.5	4	1	29	130.2
1 1/2	205	44.5	73.0	4	1 1/8	32	146.0
2	235	50.9	92.1	8	1	29	171.4
2 1/2	265	57.2	104.8	8	1 1/8	32	196.8
3	305	66.7	127.0	8	1 1/4	35	228.6
4	355	76.2	157.2	8	1 1/2	42	273.0
5	420	92.1	185.7	8	1 3/4	48	323.8
6	485	108.0	215.9	8	2	54	368.3
8	550	127.0	269.9	12	2	54	438.2
10	675	165.1	323.9	12	2 1/2	67	539.8
12	760	184.2	381.0	12	2 3/4	74	619.1

O = Diametro flangia
t,f = Spessore minimo flangia
R = Diametro gradino
N = Q.ty di bulloni
V = Dimensione bulloni
X = Diametro foro per bulloni
W = Interasse di foratura



O = Flange diameter
t,f = minimum thickness of flange
R = Raised face diameter
N = Q.ty of bolts
V = Size of bolts
X = Size of holes for bolts
W = Bolt circle diameter