LUEN

OMT Group

DOUBLE CONTERBALANCE VALVES WITH IN LINE BODY

In order to constantly improve our products quality, we take the right to make changes to the catalogues at any time without notice.
Customers have the responsibility to continuously check all the information in the catalogues.
This catalogue cancels and replaces the previous ones.

Versione - Version 01/092009

HYDRAULIC FLUID

Hydraulic fluid must have physical, lubricating and chemical properties suitable for use in hydraulic systemssuch as, for example, mineral based oil HL DIN51524 Part 1 and HLP DIN51524 Part 2. ISO 3448 viscosity class is expressed by ISO VGfollowed by one number representing the average
kinematic viscosity at 40°C in mm^2/s or centiStokes cSt.

GRADI DI VISCOSITÀ VISCOSITY CLASS	VISCOSITÀ CINEMATICA KINEMATIC VISCOSITY		
	max a 0°C max at 0°C	media a 40°C medium at 40°C	min a 100°C min at 100°C
ISO VG 10	90	10	2,4
ISO VG 22	300	22	4,1
ISO VG 32	420	32	5,0
ISO VG 46	780	46	6,1
ISO VG 68	1400	68	7,8
ISO VG 100	2560	100	9,9

CONTAMINATION, FILTRATION

General information: very often the cause of mal- functions in hydraulic systems and comp onents isfound to be excessive fluid contamination.
In particular the hard and abrasive particles in thefluid wear the hydraulic components and p revent the poppets from re-seating, with consequent internai leakage and system inefficiency. For thecorrect operation of Luen valves it is necessary toensure that the oil co ntamination level does not exceed the limitsgiven in class19/15 ISO-4406, or 10+11 NAS-1638, unless otherwise specified inthe relevant technical sheet.
Filtration ratio (3x): it's the ratio between thenumber of particles before and after the filter with diameter larger than X micron.
Absolute filtration rating (ISO 4572): it'sthe diam- eter X of the largest particles with 13x>=75 .
Contamination class ISO 4406: it's expressed bytwo scale numbers representing the nu mber of particles larger than 5 micron and larger than 15micron contained in 1 mi of fluid.
Contamination class NAS 1638: it's expressed byone scale number representing the number of particles of different size ranges contained in 100mi of fluid.

CARTRIDGES

Screw type, they can be fitted directly into the cav- ity in the actuator (cylinder, motor, pump, etc.) or in the integrated block. The valves are made of steel AV-PB (9SMhPb28 or 32) or of Ng2Pb (16NCr4) for the internal mechanical blocks. All the internal parts are hardened and ground or lapped to ensure them aximum reliability and resistance. The external face is either zinc-plated (white) or burnished (black).

CARTRIDGE INSTALLATION

It's recommended to strictly follow these steps:

- inspect the cartridge to ensure that it is in good co ndition and no external contaminant is present.
- check that O-rings and back-up rings are intact and correctly positioned.
- The O-ring should be towards the higher pres- su re port, if only one back-up ring is present, or betw een double back-up rings if both ports receive high pressure.
- dip the cartridge in clean oil.
- screw the cartridge in BY HAND until the O-ring is met, then tighten with a wrench to the torques pecitied in the cartridge catalogue page.

PRESSURE SETTING

LuEn valves are supplied pre-set at the standard p ressure setting shown by the relevant catalogue s heet. Whenever the application requires a re- adjustment, please ensure that the limits o f the given pressure range are never exceeded.

BODIES

VALVES WITH AN ALUMINIUM BODY (STANDARD)

The bodies are made of high resistance extruded aluminium, designed for high pressure hydraulic applications. For a higher hardness degree, they
can be gray anodized upon request (hardness 120-
130 HRw, 2-3 micron deep). This allows high pre- cision mechanical blocks and a better resistance of the connecting threads and of the plugs and of the adjustment plugs.
Note: if not otherwise specified, Luen valves have aluminium bodies. These bodies can be used in applications where the maximum pres sure (set for each single valve type) is reached only occasional- ly or for applications with a continuous moderate pressure. Luen has dev eloped a wide range of steel bodies designed for heavy duties or for the applica- tions in which the maximum pressure allowed is frequently reached.

STEEL BODIES

The bodies are made of Steel AV-PB (9SMhPb28 or 32) and burnished (black) or zinc-plated (white).

CAVITIES

CE...N Normalized cavity for cartridges
CE...L LuEn proprietary cartridge cavity
CE...LN Cavity compatible other manufacturers Cl...LN Non cartridge valve cavity. The single parts are assembled directly on the body (in aluminium or steel). This allows a good compact design and low pressure drops. Special Teflon rings are used to protect the OR from wearing to always allow best performances.

CE cavity drawings are at the customer's disposal. Cl cavities are not published because the valves assembly directly on the bodies can be performed only at LuEn factory by specialized personnel and under strict dimensionai controls.

PORTS

The threaded ports are usually GAS type, cylindri- cal (BSPP), size from 1/4 " to 1 1/4 ". Different port sizes available upon request. A wide range of stan- dard ports available – METRIC – NPT – SAE-6000 – CETOP, as well as specific flanges for the most common hydraulic motors.

SEALS AND SEALING RINGS

O-RINGS

The sealing is achieved by means of O-Rings both for the static (when the parts don't move) and for the dy namic (when there's movement between the parts) sealing. The right dimension of the O-Ring is fundamental for the sealing. In case the O-Ring has to be replaced, it is highly recommended to use exactly the models specified in the LUE n s.r.l. doc- umentation.
The O-Rings supplied are standard, made of a NBR compound, hardness 70 - Shore A, according to DIN ISO 1229. They are suitable for a tempera- ture range between -20° and +100° C. In case higher temperatures are reached, it is recommend- ed to use different compounds (e.g. Viton). These compounds are available upon request.

BACK-UP RINGS

In case the O-Ring is subject to expulsion from its seat due to high pressure, Parbak rings (hardness 90 Shore A) and Teflon (PTFE) rings are used.
When a single Parbak ring is used, it should always be mounted on the side which is not under pres- sure w ith respect to the O-Ring.

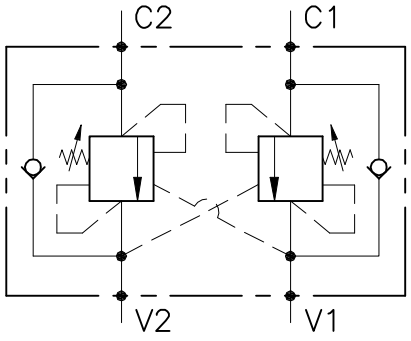
STOCKING OF NEW VALVES

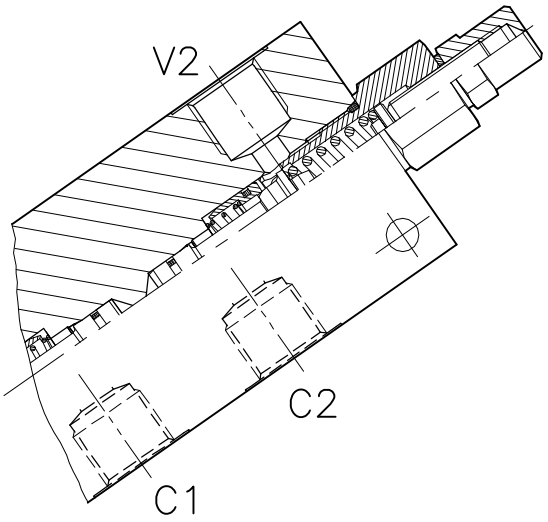
Encapsulated by their protective thermoplastic film, the valves should not be exposed to direct sunlight or to sources of heat or ozone (which might cause the deterioration of the seals), at an ambient tem- perature ranging from -20° to +50° C. The valves should be stored away from any electric motors in operation.

DOUBLE COUNTERBALANCE VALVES WITH IN LINE BODY

OWC-DE-...-LU-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





PERFORMANCE

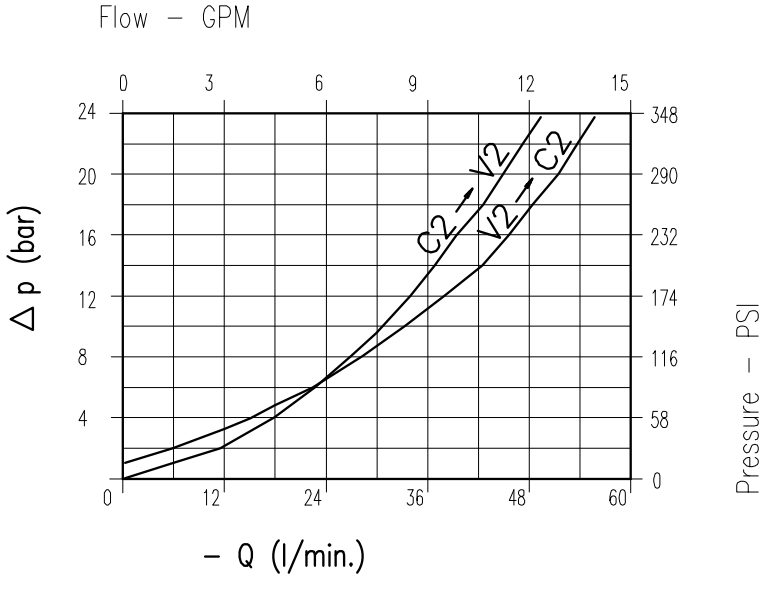
DN 6/8/10	Min/max rated size
1/60 l/min - 0.26/15.9 GPM	Min/max flow-rate Max
350 bar - 5075 PSI	working pressure Max
350 bar - 5075 PSI	setting pressure
4.25 : 1	Standard pilot ratio
-30°C + 50°C	Room temperature
-30°C + 80°C	Oil temperature
30 micron	Recommended filtration
	Tightening torque
	Weight

NOTE:

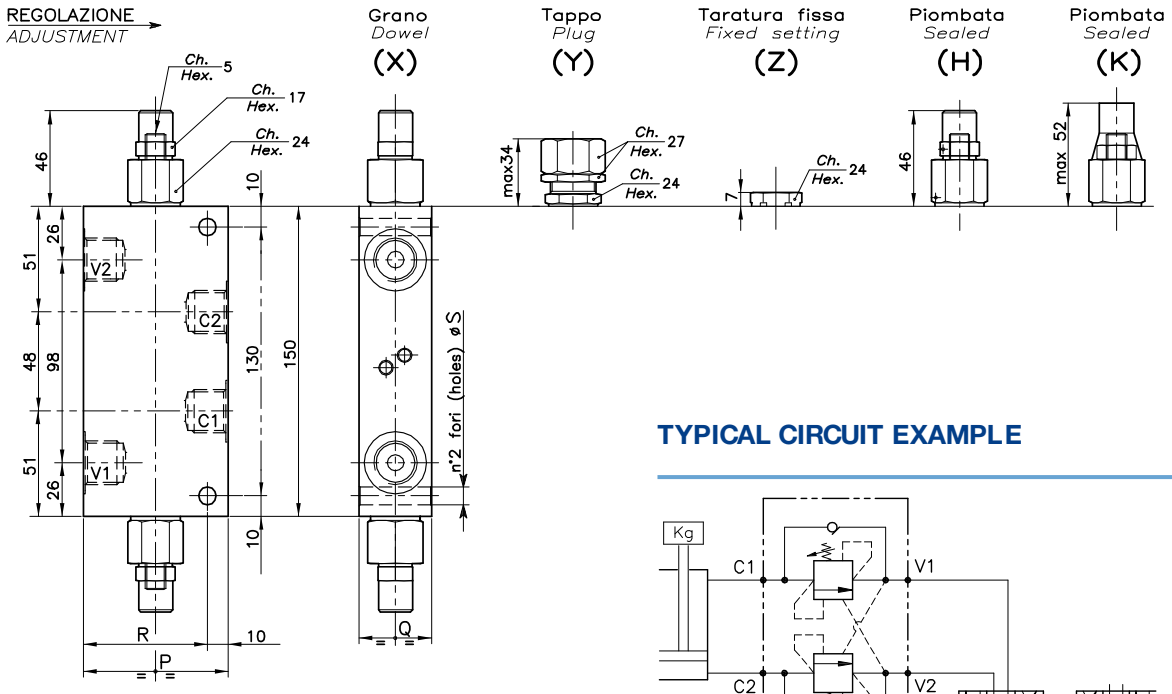
Valve should be set at **1.3** times load induced pressure.

Max working pressure:

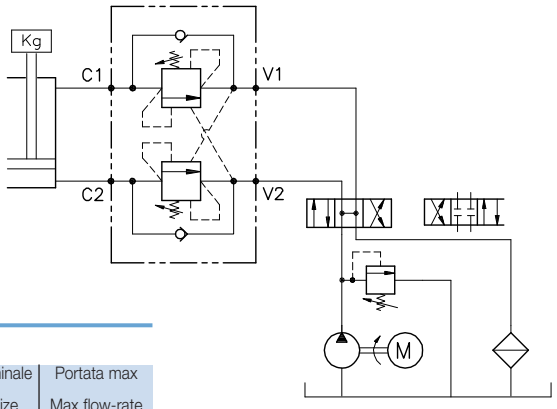
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
il viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	S	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
107	106	60	30	50		1/4"	6	20-5
055	005	60	30	50	6.5	3/8"	8	40-10
060	010	70	35	60	8.5	1/2"	10	60-15

HOW TO ORDER

001 107 0 X 0

Campo taratura / Setting range	
107	106
055	005
060	010

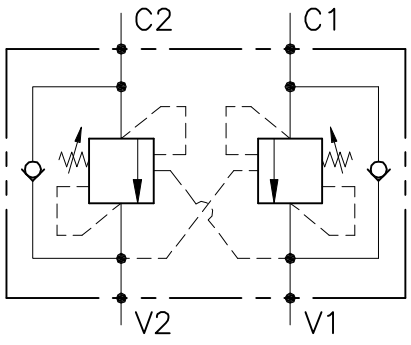
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)		Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)	
Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1')	Incr. press. - bar giro/vite Pressure rise - turn of screw	Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1')	Incr. press. - bar giro/vite Pressure rise - turn of screw
220 bar	**(56)**	**350 bar**	**(138)**

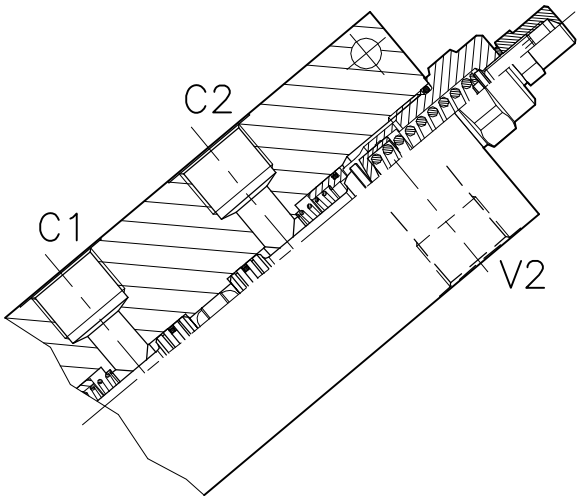
Rapporto di pilotaggio Pilot ratios	
O	4.25 : 1
D	8 : 1

Regolazione Adjustment	
X	Grano - Dowel
Y	Tappo - Plug
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

OWC-DE-...-LU-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





CARATTERISTICHE		PERFORMANCE
Luce nominale min/max	**DN 12/14**	Min/max rated size
Portata min/max Pressione	**1/160 l/min - 0.26/42.3 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**6.2 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso		Weight

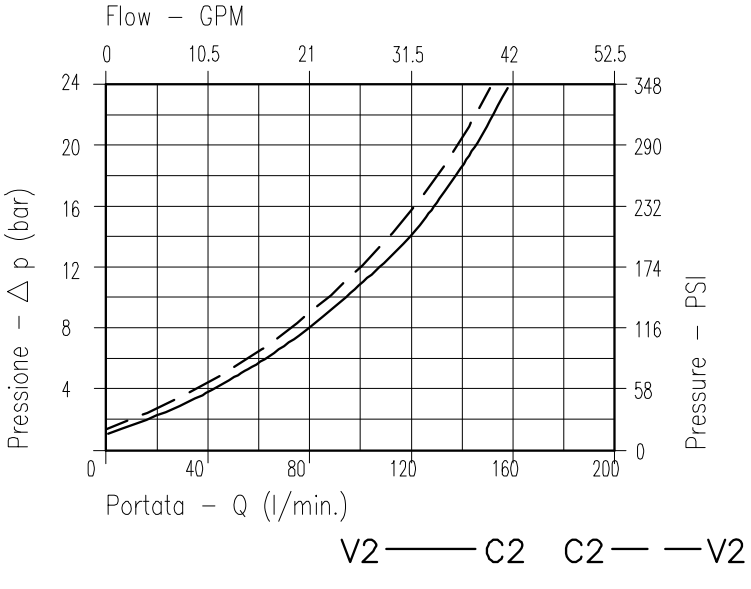
NOTE:

Valve should be set at **1.3** times load induced pressure.

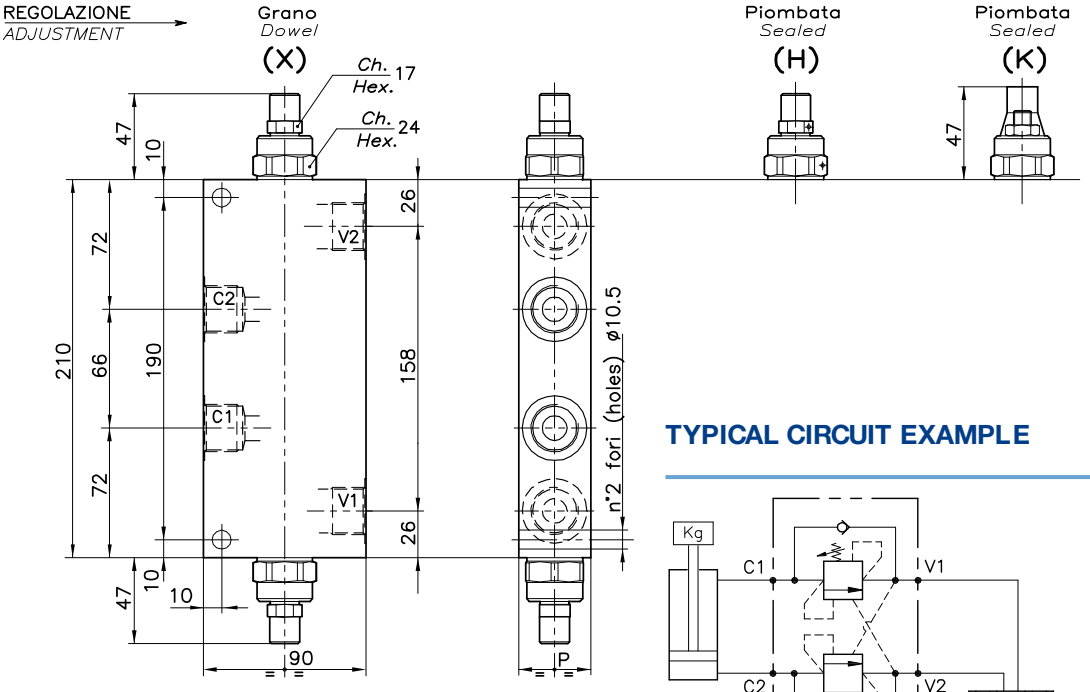
EXAMPLE:

Max working pressure:

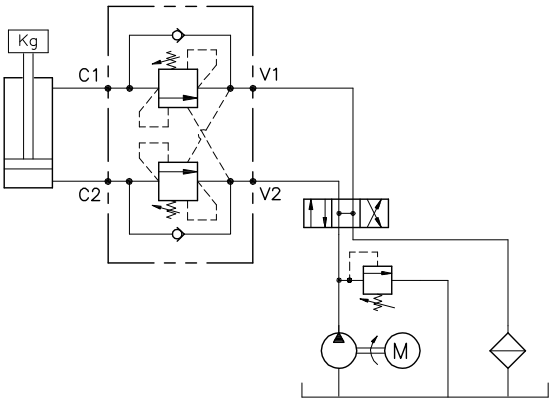
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range	P	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
453	40	3/4”	12	120-31
454	50	1”	14	160-42

HOW TO ORDER

001 453 0 X 0

Campo taratura / Setting range
453
454
Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)

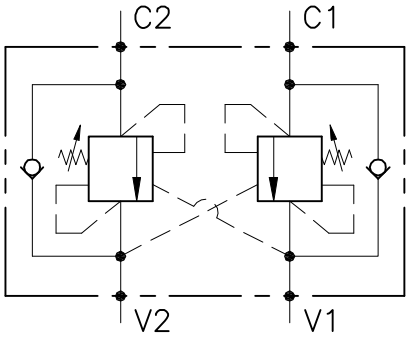
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **350 bar**	Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

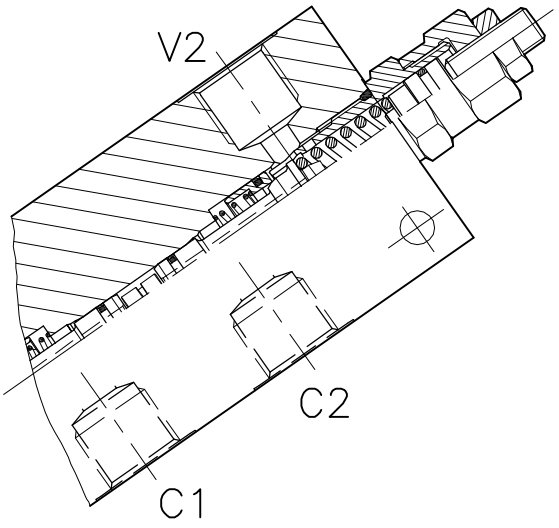
Rapporto di pilotaggio Pilot ratios	
O	6.20 : 1
G	4 : 1

Regolazione Adjustment	
X	Grano - Dowel
H	Piombata - Sealed
K	Piombata - Sealed

WB-C-DE-LU-...-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





CARATTERISTICHE		PERFORMANCE
Luce nominale min/max	**DN 6/8/10**	Min/max rated size
Portata min/max Pressione	**1/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso		Weight

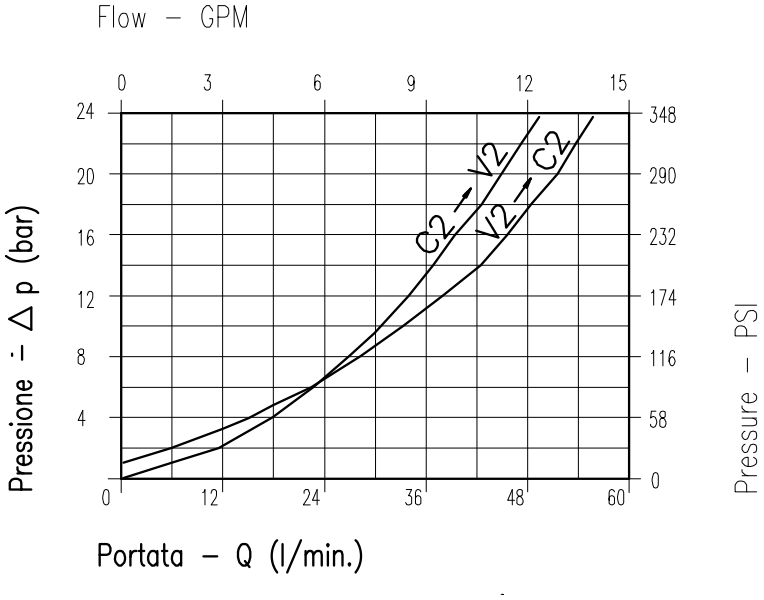
NOTE:

Valve should be set at **1.3** times load induced pressure.

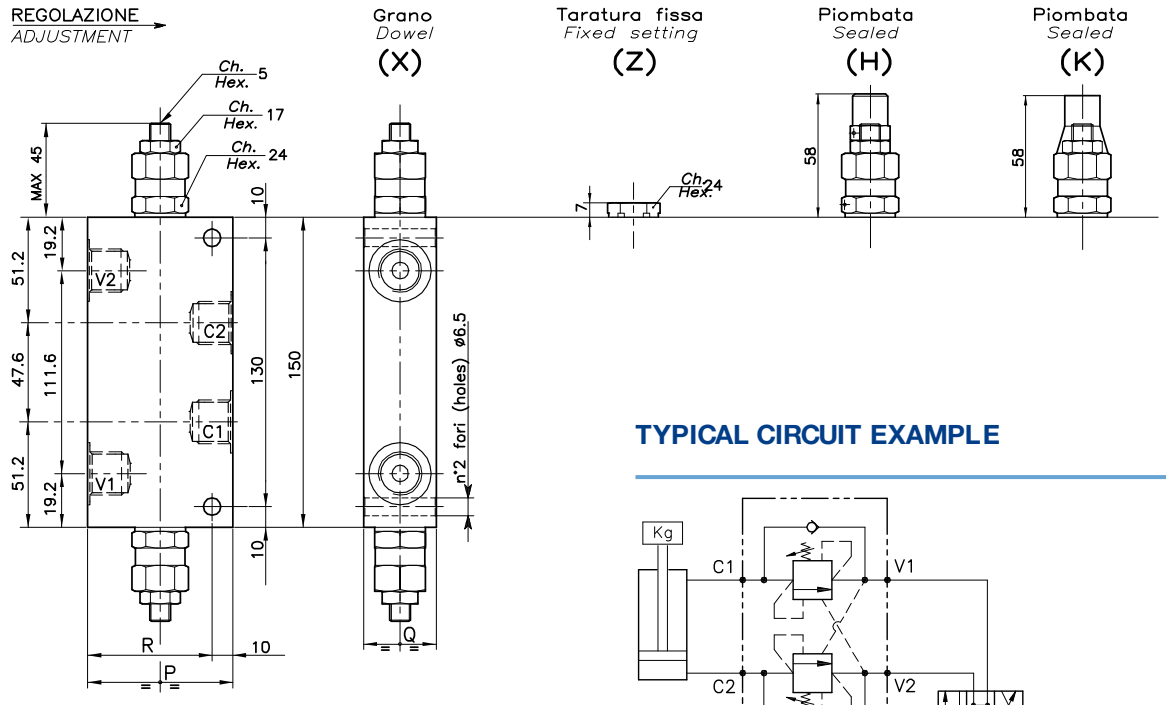
EXAMPLE:

Max working pressure:

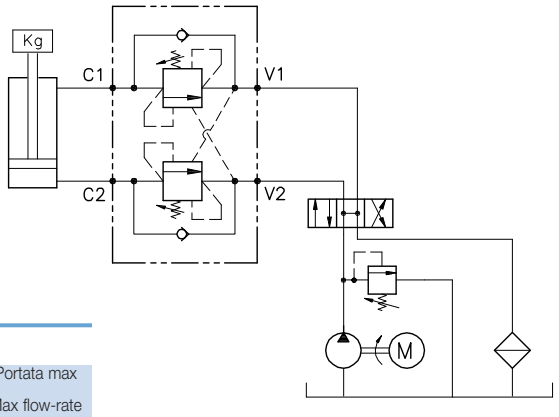
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
254	255	60	30	50	1/4”	6	20-5
256	257	60	30	50	3/8”	8	40-10
258	259	70	35	60	1/2”	10	60-15

HOW TO ORDER

001 254 0 X 0

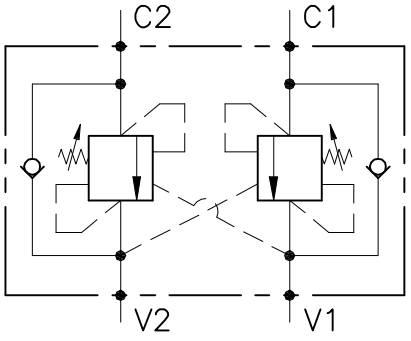
Campo taratura / Setting range	
254	255
256	257
258	259
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)	Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **220 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(56)**	Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **350 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

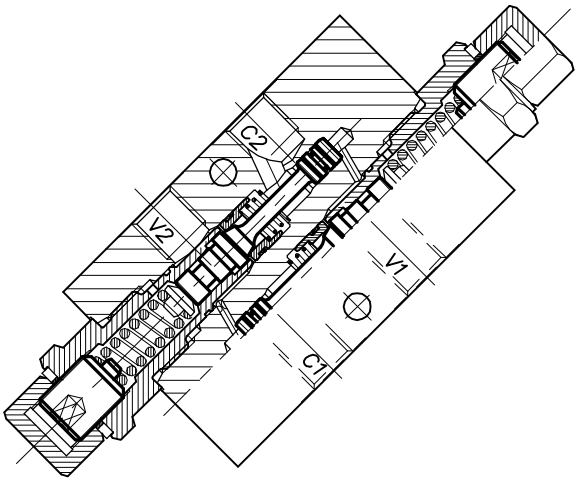
Rapporto di pilotaggio Pilot ratios	
O	4.25 : 1
D	8 : 1

Regolazione Adjustment	
X	Grano - Dowel
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

OWC-30-DEI-14-L

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





CARATTERISTICHE		PERFORMANCE
Luce nominale	**DN 6**	Rated size
Portata min/max	**1/25 l/min - 0.26/6.6 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso	**0.300 Kg**	Weight

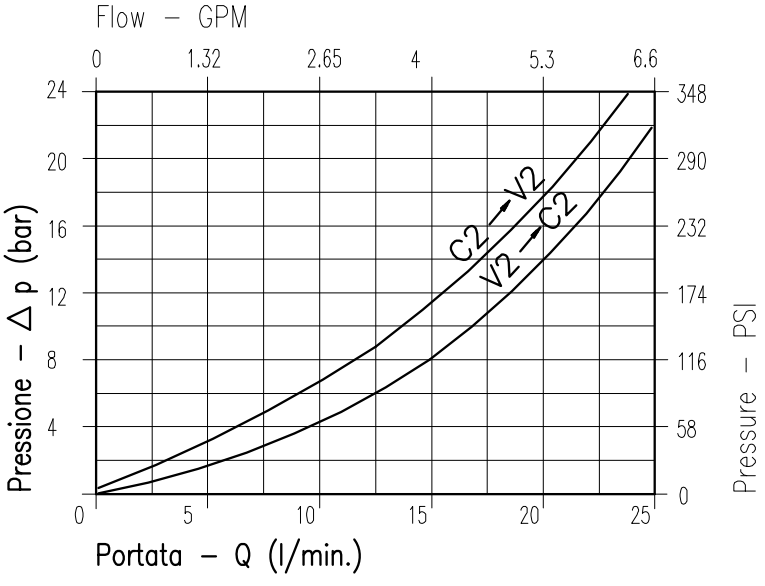
NOTE:

Valve should be set at **1.3** times load induced pressure.

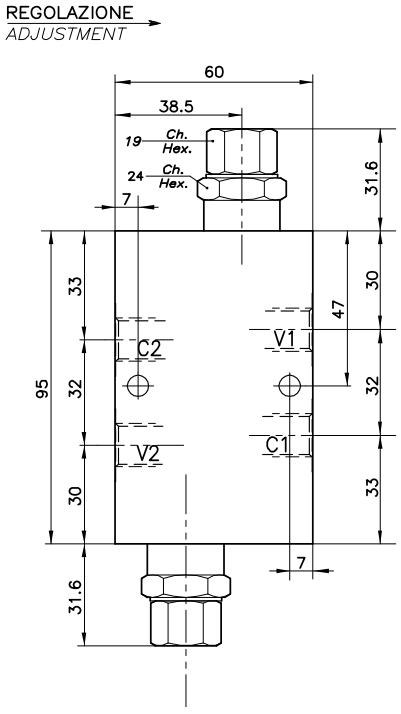
EXAMPLE:

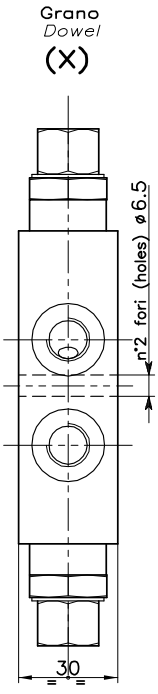
Max working pressure:

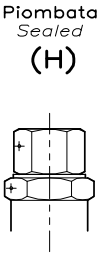
350 bar / 1.3 = 270 bar



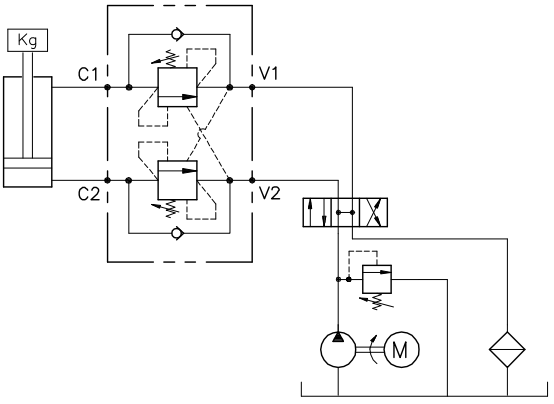
Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C







CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
626	1/4”	6	25-6

HOW TO ORDER

001 626 0 X 0

Campo taratura / Setting range

626

Campo taratura 30÷280 bar (molla colore verde)
Setting range 30÷280 bar (green spring)

Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw
250 bar	**(56)**

Rapporto di pilotaggio
Pilot ratios

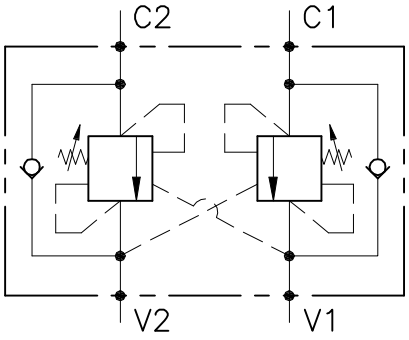
O	4 : 1
F	7 : 1

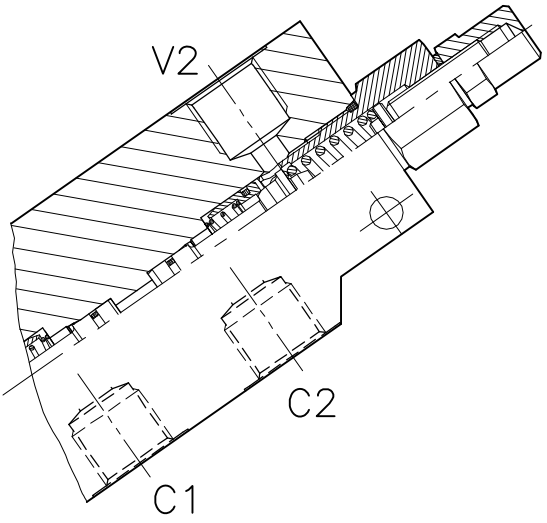
Regolazione
Adjustment

X	Grano - Dowel
H	Piombata - Sealed

A-OWF-DE-...-LU-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





CARATTERISTICHE

PERFORMANCE

Luce nominale min/max	**DN 6/8/10**	Min/max rated size
Portata min/max Pressione	**1/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso		Weight

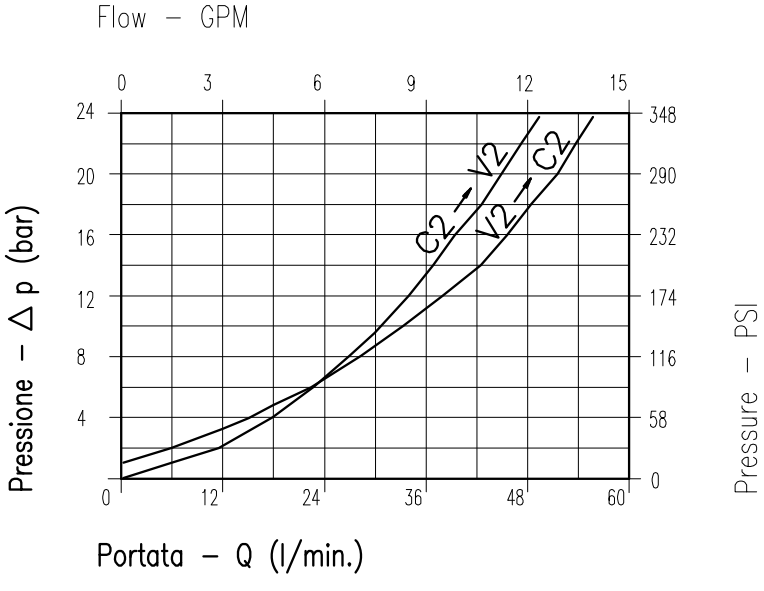
NOTE:

Valve should be set at **1.3** times load induced pressure.

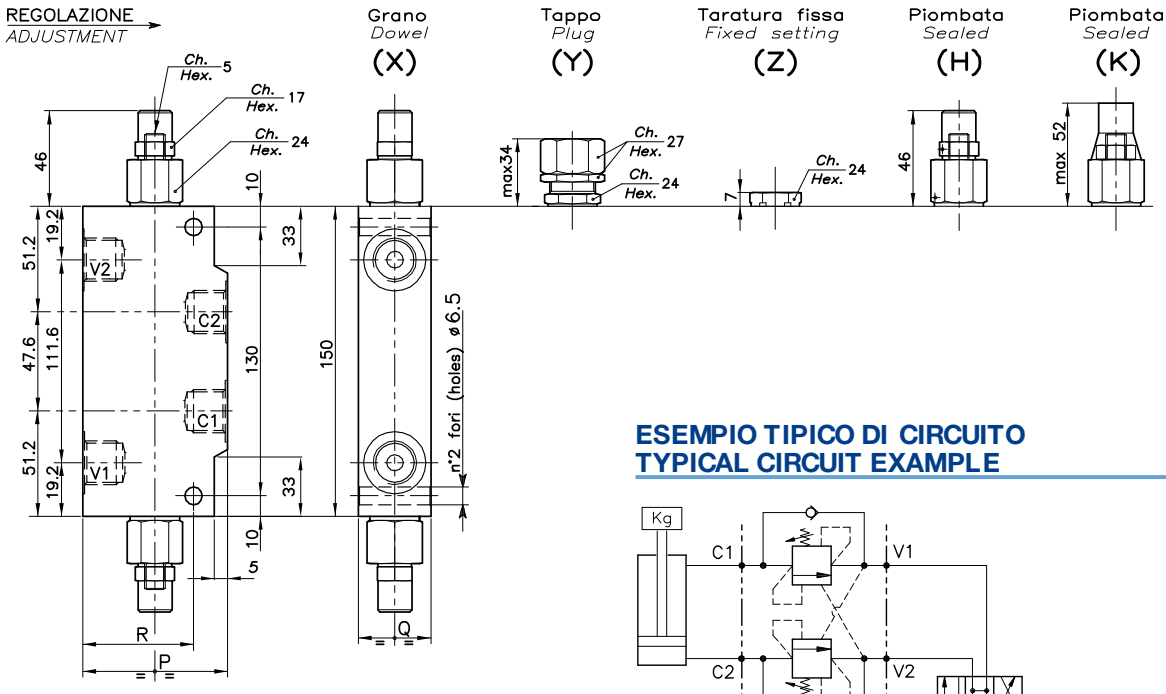
EXAMPLE:

Max working pressure:

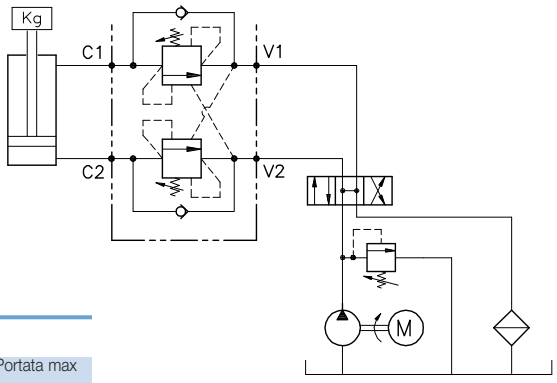
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



ESEMPIO TIPICO DI CIRCUITO
TYPICAL CIRCUIT EXAMPLE



DIMENSIONI
DIMENSIONS

Campo taratura Setting range		P	Q	R	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
079	078	60	30	47,5	1/4”	6	20-5
081	080	60	30	47,5	3/8”	8	40-10
083	082	70	35	55	1/2”	10	60-15

CODICE DI ORDINAZIONE
HOW TO ORDER

001 079 0 X 0

Campo taratura / Setting range	
079	078
081	080
083	082

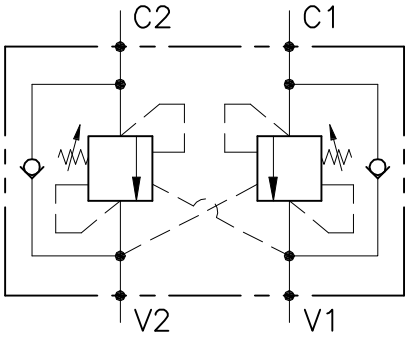
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)		Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)	
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw	Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw
220 bar	**(56)**	**350 bar**	**(138)**

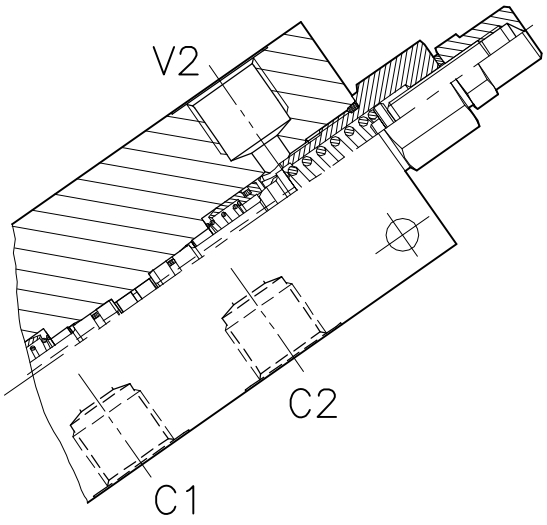
Rapporto di pilotaggio Pilot ratios	
O	4.25 : 1
D	8 : 1

Regolazione Adjustment	
X	Grano - Dowel
Y	Tappo - Plug
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

OWF-DE-...-LU-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





PERFORMANCE

DN 6/8/10	Min/max rated size
5/60 l/min - 1.3/15.9 GPM	Min/max flow-rate Max
350 bar - 5075 PSI	working pressure Max
350 bar - 5075 PSI	setting pressure
4.25 : 1	Standard pilot ratio
-30°C + 50°C	Room temperature
-30°C + 80°C	Oil temperature
30 micron	Recommended filtration
	Tightening torque
	Weight

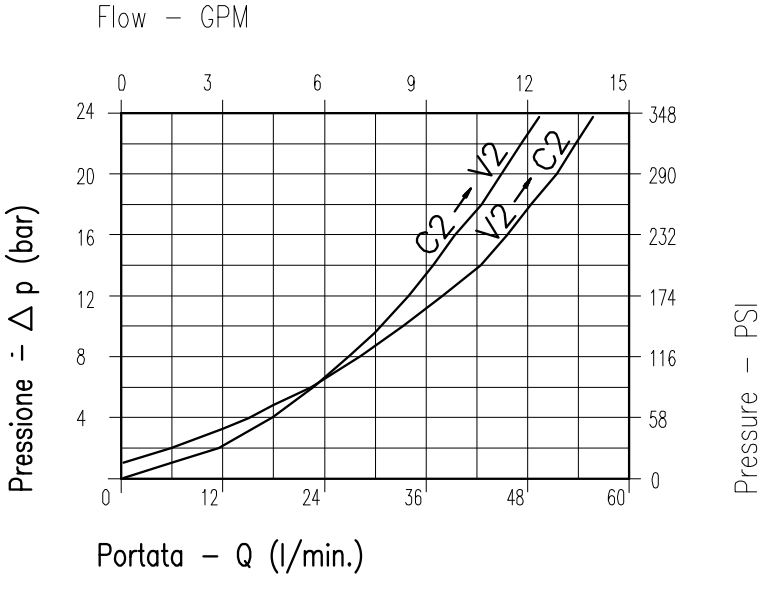
NOTE:

Valve should be set at **1.3** times load induced pressure.

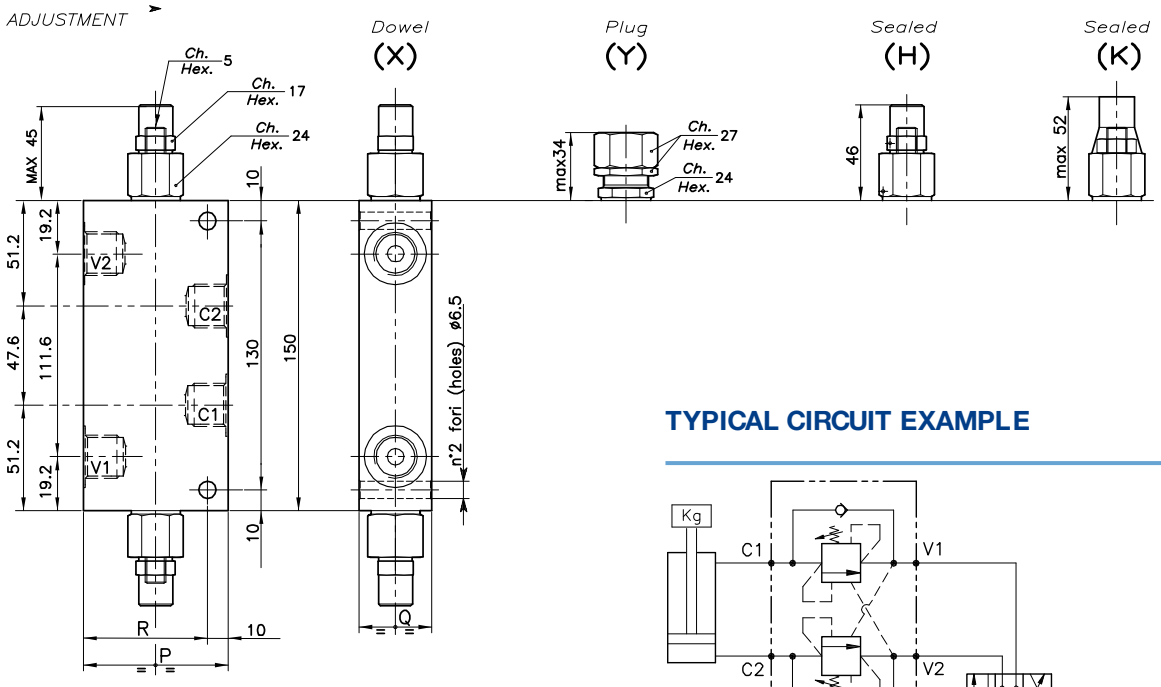
EXAMPLE:

Max working pressure:

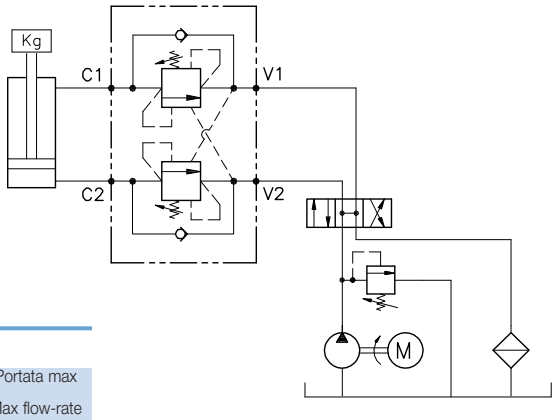
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
663	662	60	30	50	1/4”	6	20-5
665	664	60	30	50	3/8”	8	40-10
667	666	70	35	60	1/2”	10	60-15

HOW TO ORDER

001 663 0 X 0

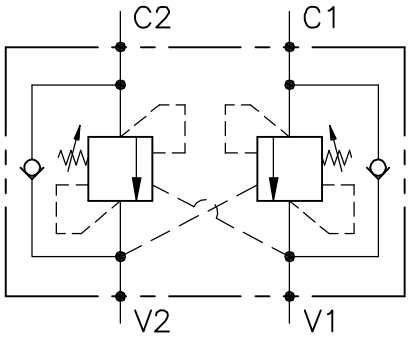
Campo taratura / Setting range	
663	662
665	664
667	666
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)	Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **220 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(56)**	Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **350 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

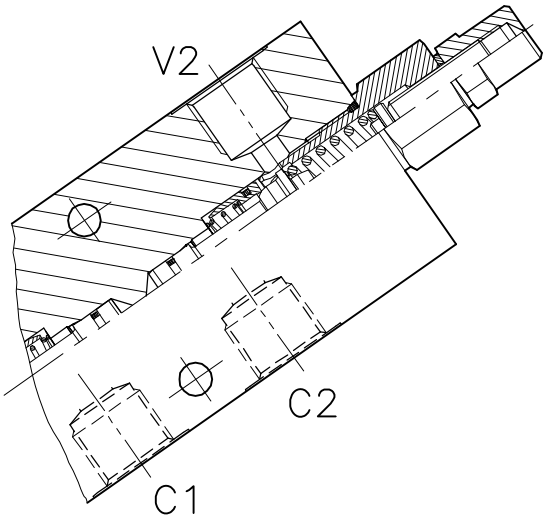
Rapporto di pilotaggio Pilot ratios	
O	4.25 : 1
D	8 : 1

Regolazione Adjustment	
X	Grano - Dowel
Y	Tappo - Plug
H	Piombata - Sealed
K	Piombata - Sealed

A-OWC-DE-...-OIL-...

DOUBLE COUNTERBALANCE VALVE WITH IN LINE BODY





CARATTERISTICHE

PERFORMANCE

Luce nominale min/max	**DN 8/10**	Min/max rated size
Portata min/max Pressione	**1/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Peso	**2.586 Kg**	Weight

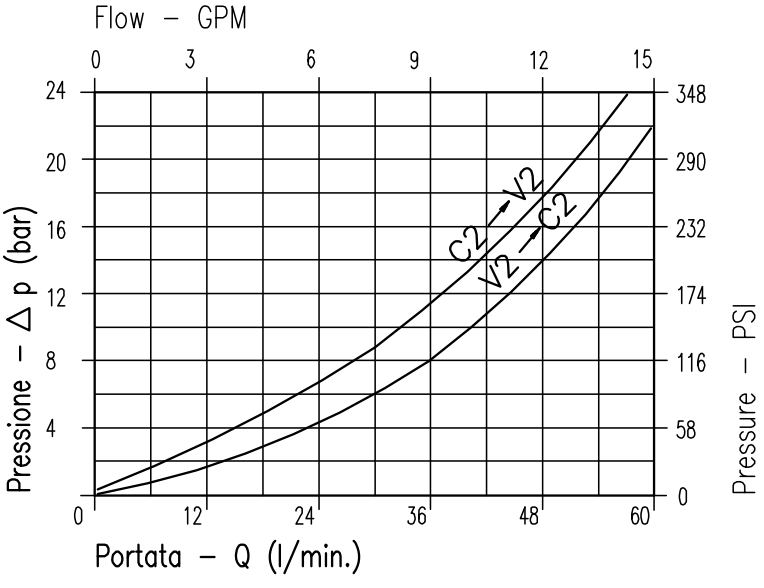
NOTE:

Valve should be set at **1.3** times load induced pressure.

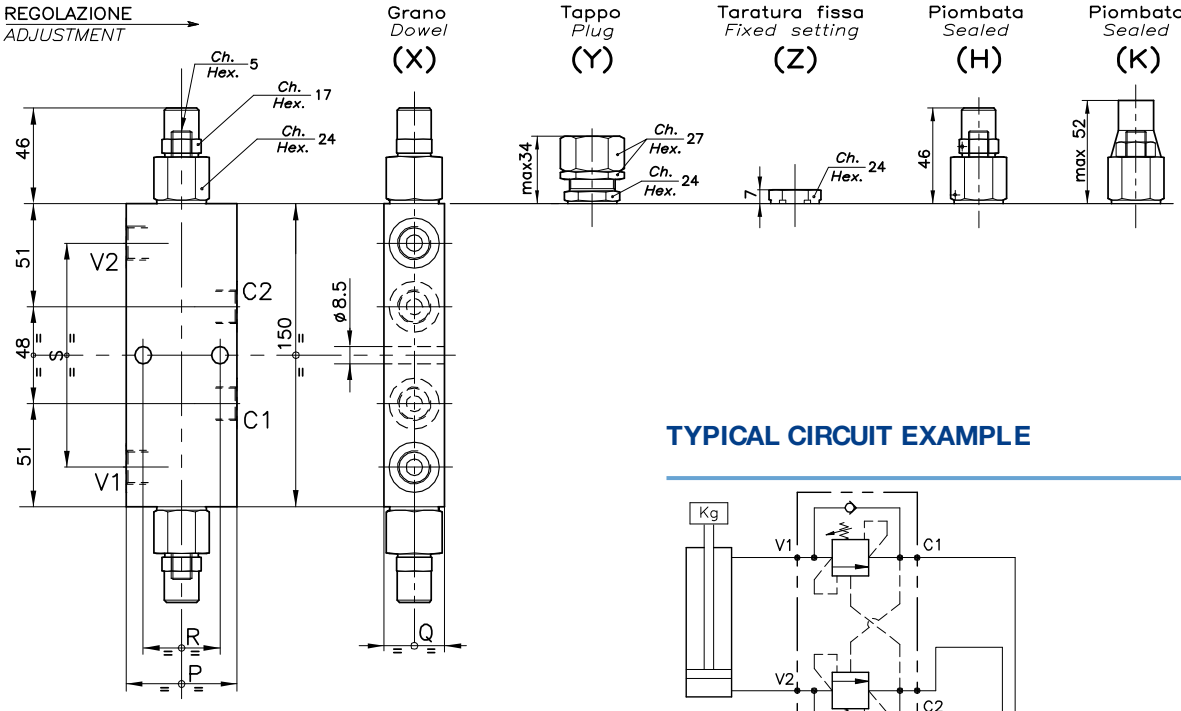
EXAMPLE:

Max working pressure:

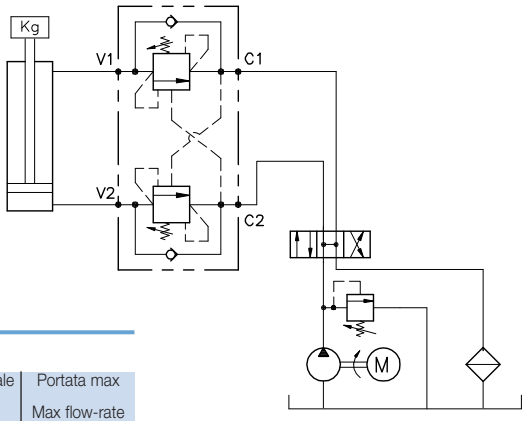
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	S	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
697	660	55	30	38	109.6	3/8"	8	40-10
696	695	65	35	43	112	1/2"	10	60-15

HOW TO ORDER

001 697 0 X 0

Campo taratura / Setting range

697	660
696	695

Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)		Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)	
Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1') **220 bar**	Incr. press. - bar giro/vite Pressure rise - turn of screw **(56)**	Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1') **350 bar**	Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

Rapporto di pilotaggio / Pilot ratios

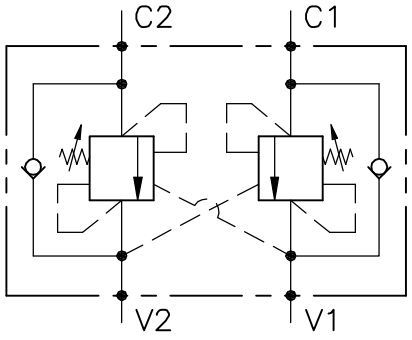
O	4.25 : 1
D	8 : 1

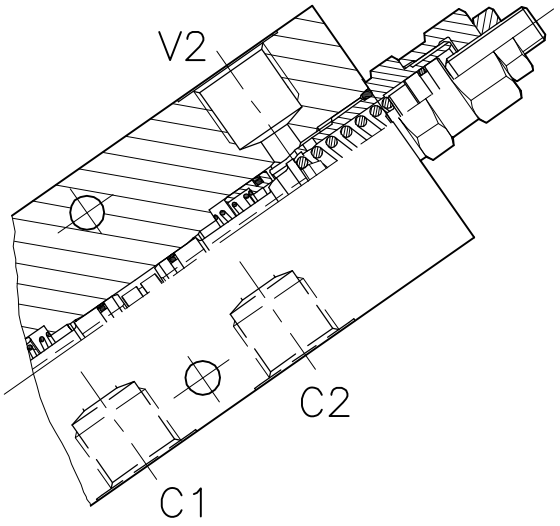
Regolazione / Adjustment

X	Grano - Dowel
Y	Tappo - Plug
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

A-WB-DE-...-OIL-...

DOUBLE COUNTERBALANCE VALVE
WITH IN LINE BODY





CARATTERISTICHE

PERFORMANCE

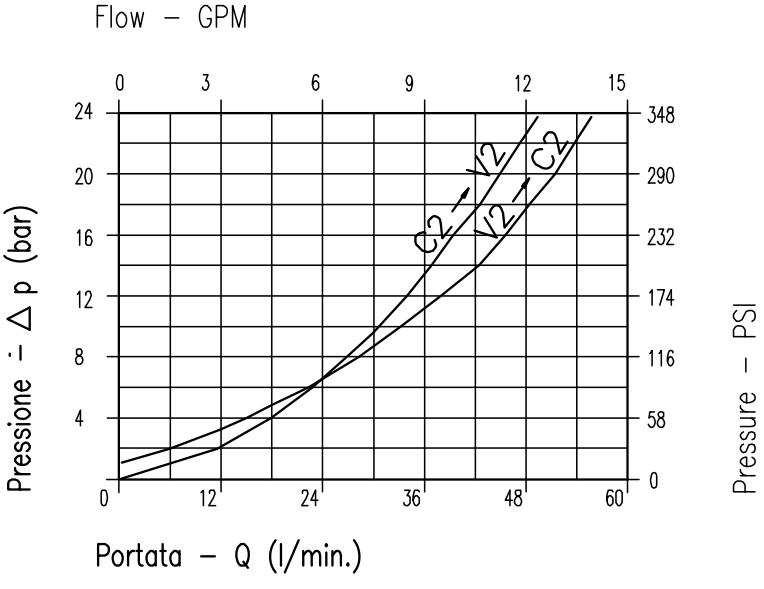
Luce nominale min/max	**DN 8/10**	Min/max rated size
Portata min/max Pressione	**1/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Peso	**2.586 Kg**	Weight

NOTE:

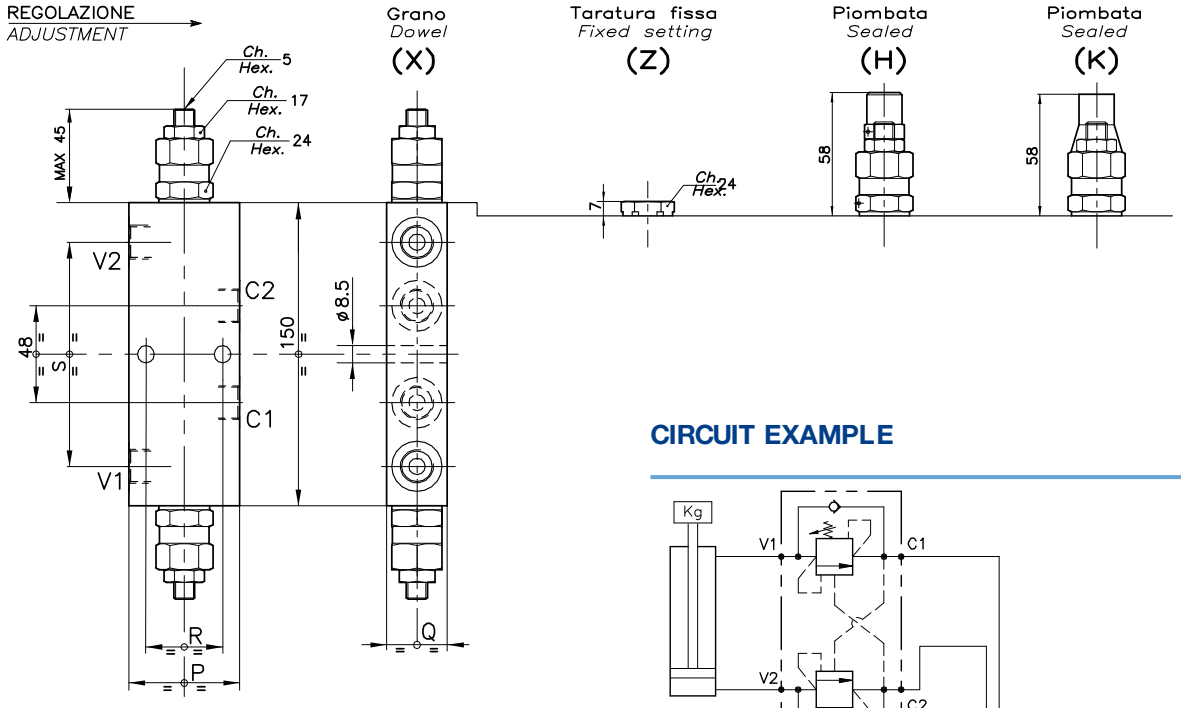
Valve should be set at **1.3** times load induced pressure.

Max working pressure:

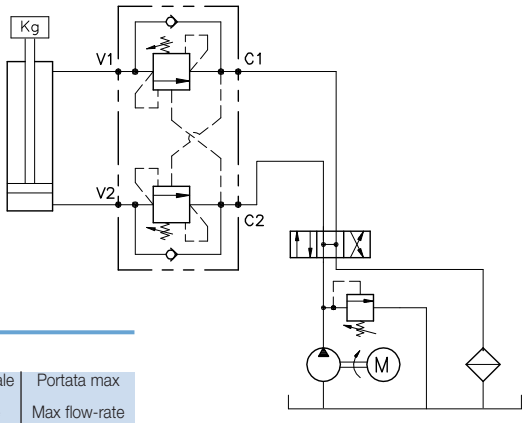
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	S	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
699	700	55	30	38	109.6	3/8"	8	40-10
686	698	65	35	43	112	1/2"	10	60-15

HOW TO ORDER

001 699 0 X 0

Campo taratura / Setting range

699	700
686	698
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)	Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)
Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1') **220 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(56)**	Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1') **350 bar** / Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

Rapporto di pilotaggio
Pilot ratios

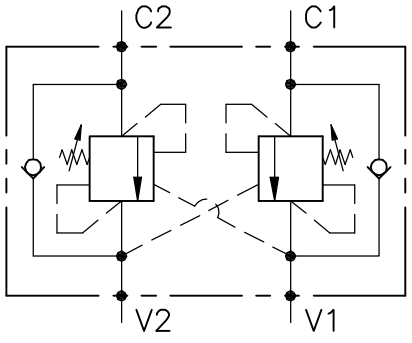
O	4.25 : 1
D	8 : 1

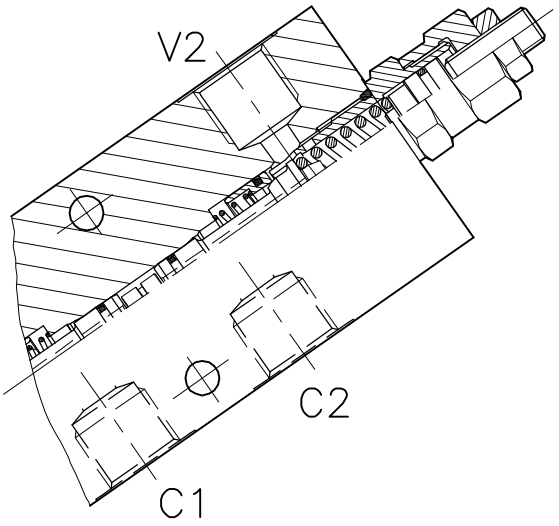
Regolazione
Adjustment

X	Grano - Dowel
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

WB-DE-...-OIL-...

DOUBLE COUNTERBALANCE VALVE
WITH IN LINE BODY



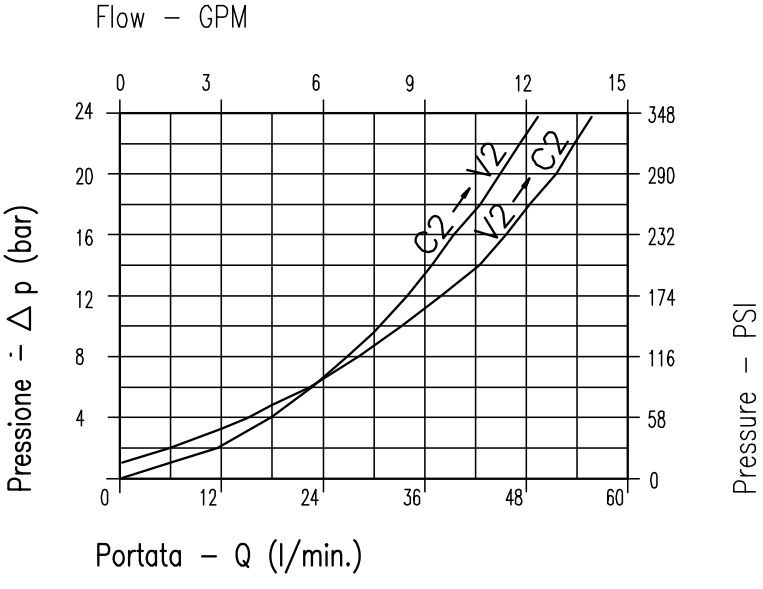


CARATTERISTICHE		PERFORMANCE
Luce nominale min/max	**DN 8/10**	Min/max rated size
Portata min/max Pressione	**5/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Peso	**3/8" Kg**	Weight
Peso	**1/2" Kg**	Weight

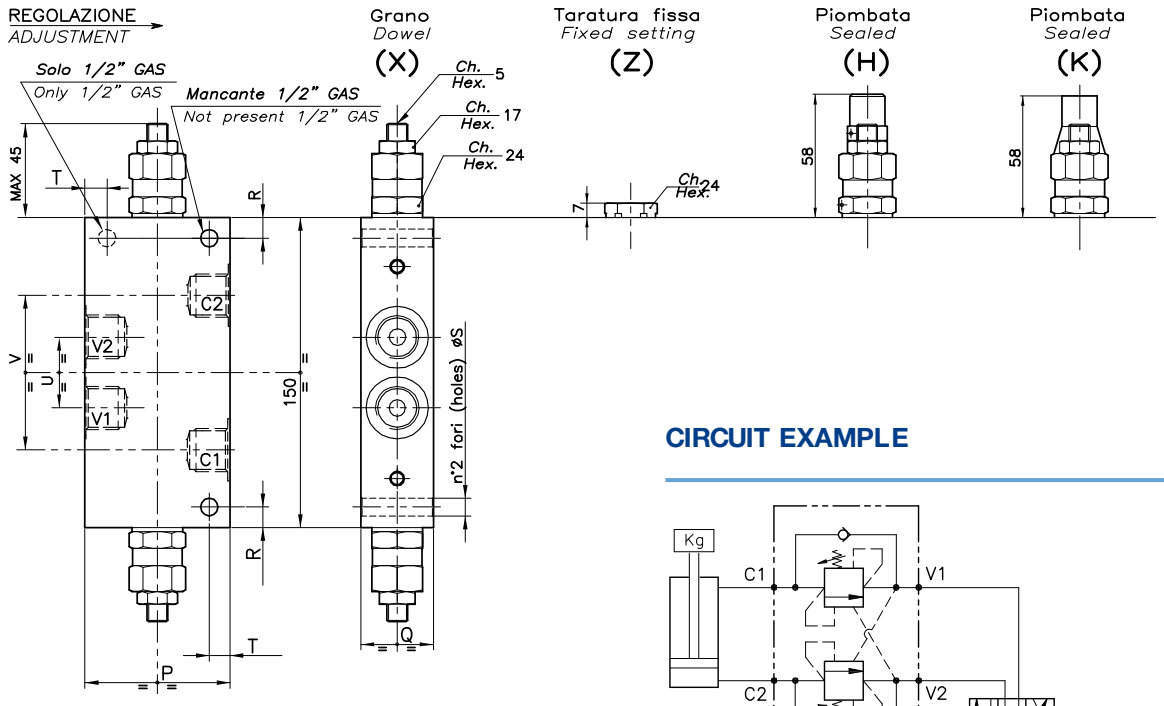
NOTE:

Valve should be set at **1.3** times load induced pressure.

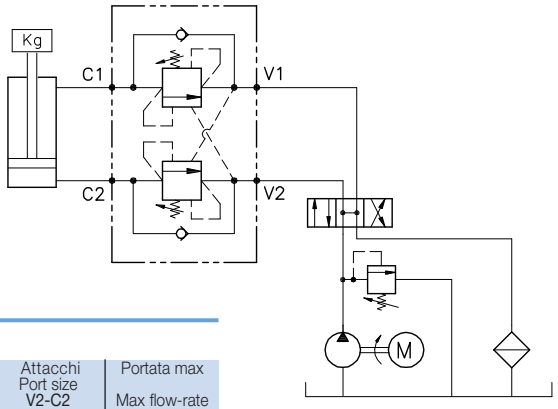
Max working pressure:
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range	P	Q	R	S	T	U	V	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Portata max Max flow-rate l/min - GPM
651	60	30	23		14	34	69 8	3/8"	40-10
115	70	35	12.5	8.5		36	80	1/2"	60-15

HOW TO ORDER

001 651 0 X 0

Campo taratura / Setting range

651

115

Campo taratura 60÷350 bar (molla colore giallo)
Setting range 60÷350 bar (yellow spring)

Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1') **350 bar**	Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

Rapporto di pilotaggio Pilot ratios

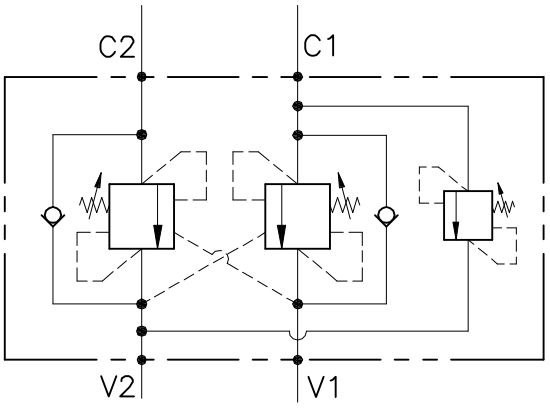
O	4.25 : 1
D	8 : 1

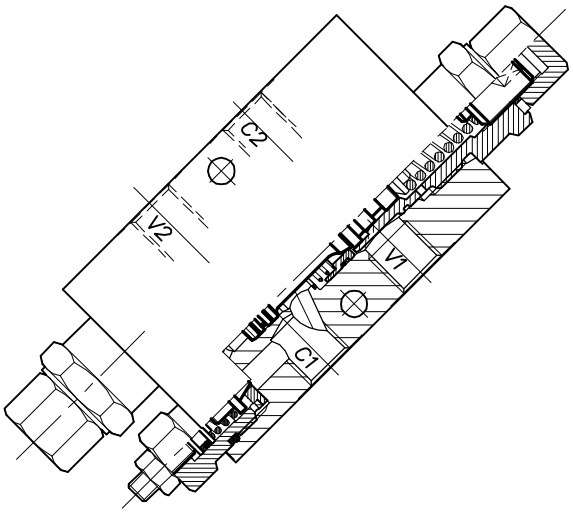
Regolazione Adjustment

X	Grano - Dowel
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed
K	Piombata - Sealed

OWC-30-DEI-VMPCI-14-L

DOUBLE COUNTERBALANCE VALVE WITH RELIEF VALVE
AND IN LINE BODY





CARATTERISTICHE — PERFORMANCE

Luce nominale	**DN 6**	Rated size
Portata min/max	**1/25 l/min - 0.26/6.6 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso	**0.300 Kg**	Weight

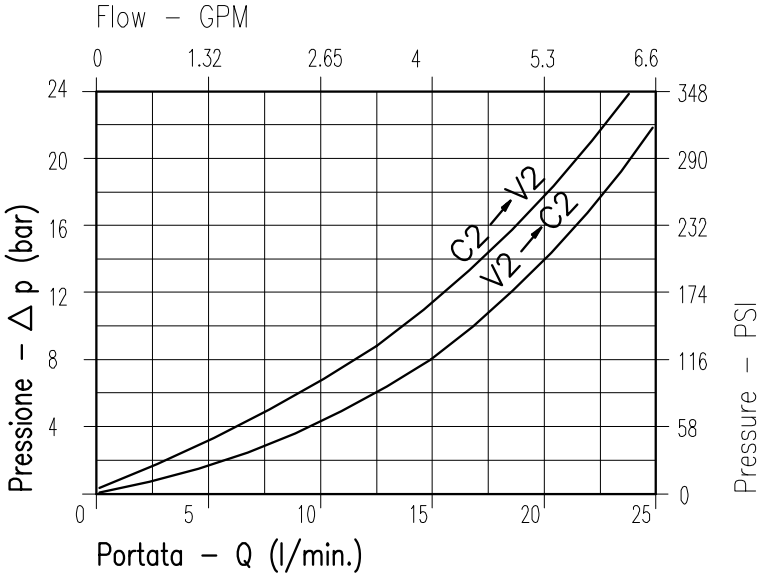
NOTE:
La taratura deve essere **1.3** volte maggiore della pressione indotta dal carico.

Valve should be set at **1.3** times load induced pressure.

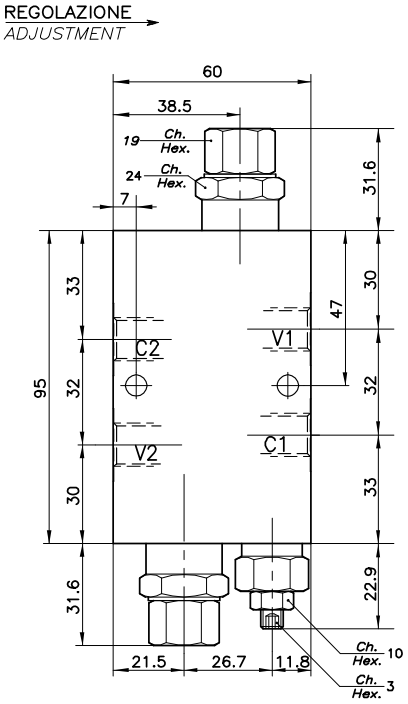
ESEMPIO/EXAMPLE:
Pressione di lavoro max:

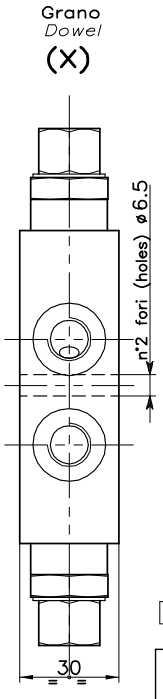
Max working pressure:

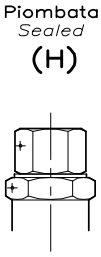
350 bar / 1.3 = 270 bar



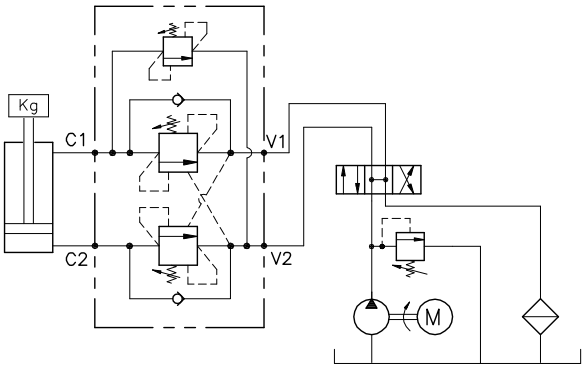
Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C







ESEMPIO TIPICO DI CIRCUITO
TYPICAL CIRCUIT EXAMPLE



DIMENSIONI
DIMENSIONS

Campo taratura Setting range	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
627	1/4”	6	25-6

HOW TO ORDER

001 627 0 X 0

Campo taratura / Setting range

627

Campo taratura 30÷280 bar (molla colore verde)
Setting range 30÷280 bar (green spring)

Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw
250 bar	**(56)**

Rapporto di pilotaggio
Pilot ratios

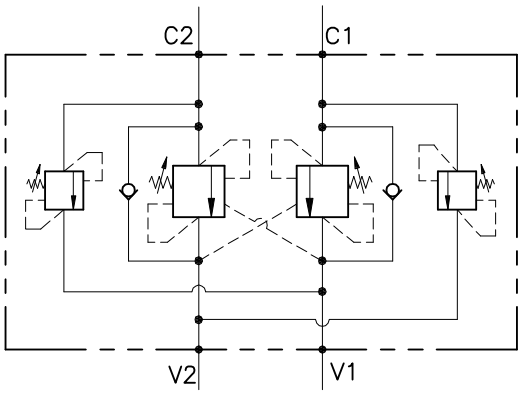
O	4 : 1
D	7 : 1

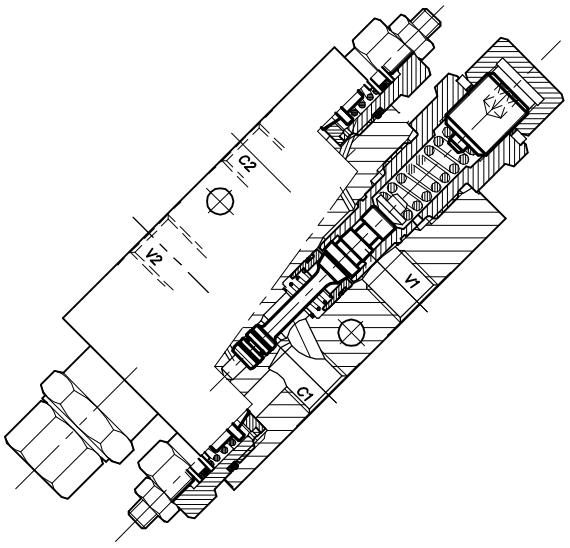
Regolazione
Adjustment

X	Grano - Dowel
H	Piombata - Sealed

OWC-30-DE-2VMP-14

DOUBLE COUNTERBALANCE VALVE WITH RELIEF VALVE
AND IN LINE BODY





CARATTERISTICHE — PERFORMANCE

Luce nominale	**DN 6**	Rated size
Portata min/max	**1/25 l/min - 0.26/6.6 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio	**76÷82 Nm**	Tightening torque
Peso	**0.300 Kg**	Weight

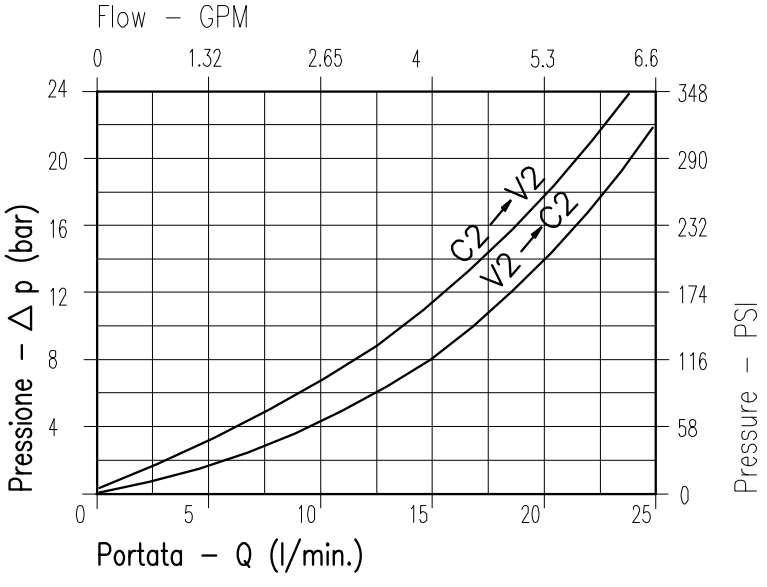
NOTE:
La taratura deve essere **1.3** volte maggiore della pressione indotta dal carico.

Valve should be set at **1.3** times load induced pressure.

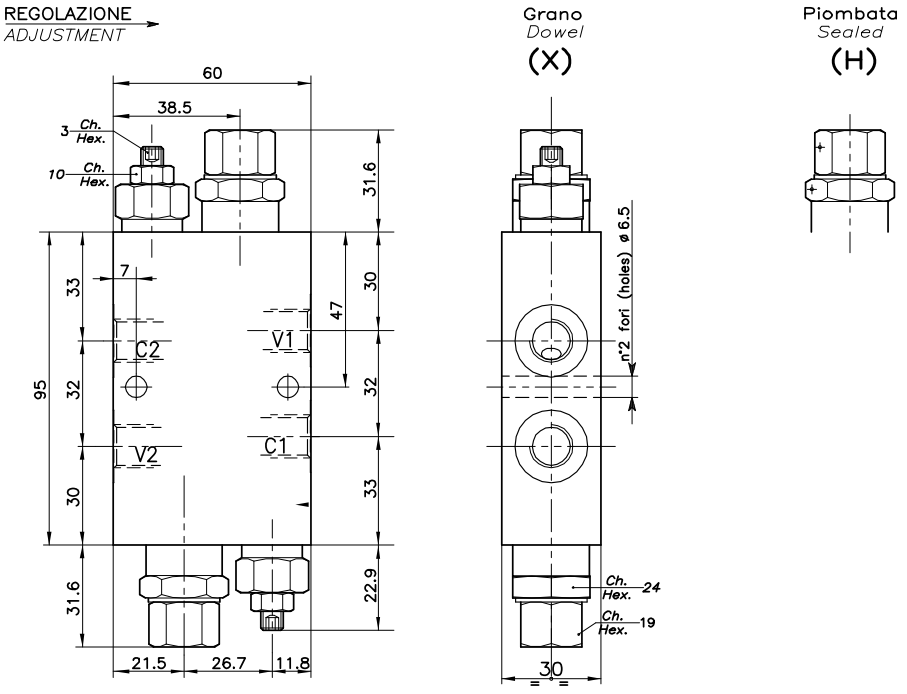
ESEMPIO/EXAMPLE:
Pressione di lavoro max:

Max working pressure:

350 bar / 1.3 = 270 bar



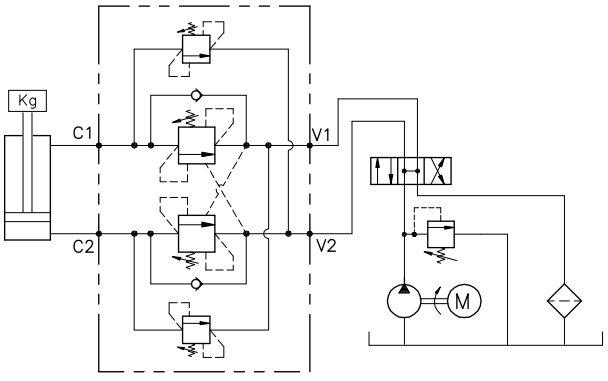
Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



DIMENSIONI
DIMENSIONS

Campo taratura Setting range	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
628	1/4"	6	25-6

ESEMPIO TIPICO DI CIRCUITO
TYPICAL CIRCUIT EXAMPLE



HOW TO ORDER

001 628 0 X 0

Campo taratura / Setting range

628

Campo taratura 30÷280 bar (molla colore verde)
Setting range 30÷280 bar (green spring)

Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1')	Incr. press. - bar giro/vite Pressure rise - bar/turn of screw
250 bar	**(56)**

Rapporto di pilotaggio
Pilot ratios

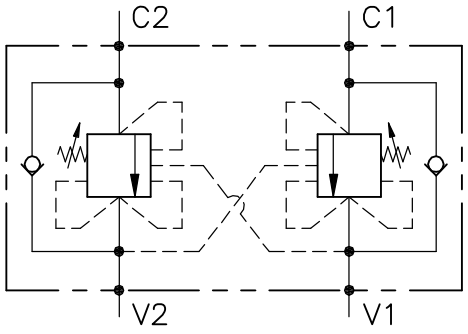
O	4 : 1
F	7 : 1

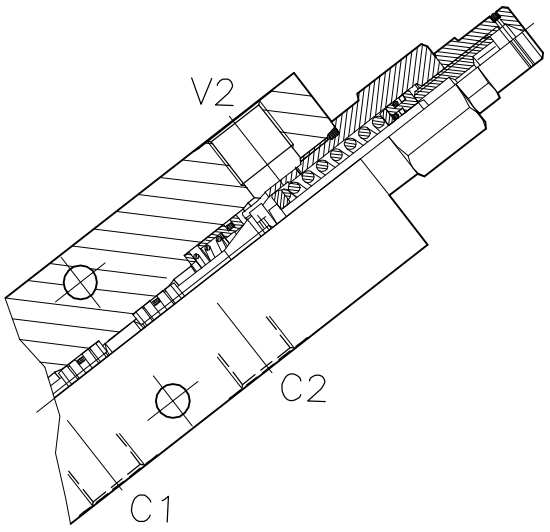
Regolazione
Adjustment

X	Grano - Dowel
H	Piombata - Sealed

A-WB-CC-DE-LU-...-...

DOUBLE COUNTERBALANCE VALVE FOR CLOSED CENTRE SPOOL WITH IN LINE BODY





CARATTERISTICHE — PERFORMANCE

Luce nominale	**DN 6/8/10**	Rated size
Portata min/max	**1/25 l/min - 0.26/6.6 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso	**0.300 Kg**	Weight

NOTE:

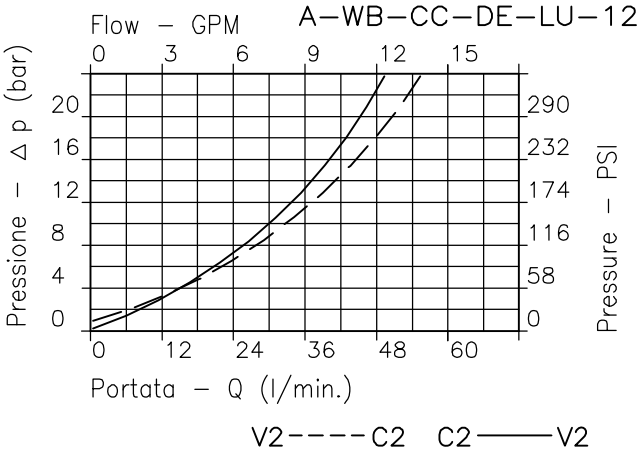
Valve should be set at **1.3** times load induced pressure.

EXAMPLE:

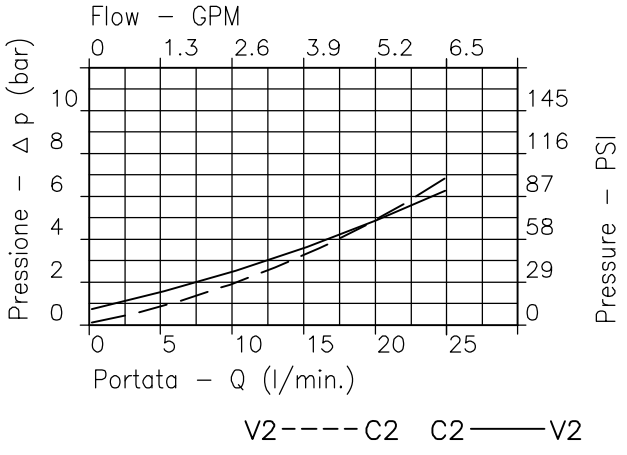
350 bar / 1.3 = 270 bar Max working pressure

Steel body valves as standard, aluminium body on request

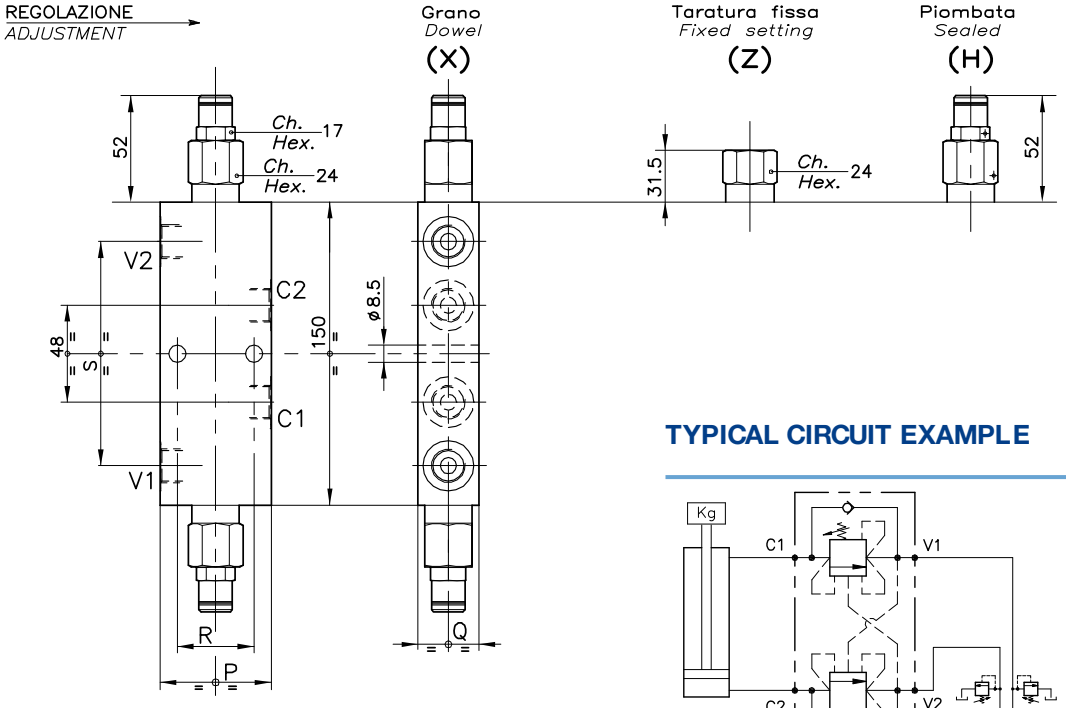
A—WB—CC—DE—LU—38
A—WB—CC—DE—LU—12



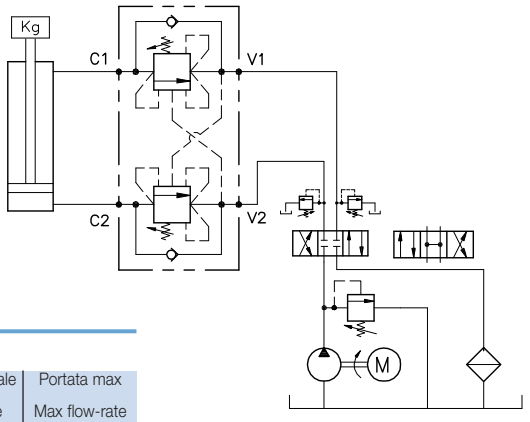
A—WB—CC—DE—LU—14



Viscosità olio 46 cSt a 50°C - Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range		P	Q	R	S	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
458	457	55	30	38	109,6	1/4”	6	20-5
460	459	55	30	38	109,6	3/8”	8	40-10
462	461	65	35	43	112	1/2”	10	60-15

HOW TO ORDER

001 458 0 X 0

Campo taratura / Setting range	
458	457
460	459
462	461

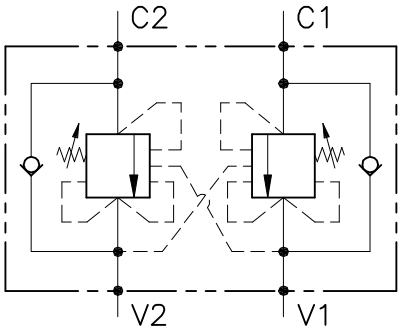
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)		Campo taratura 60÷350 bar (molla colore rosso) Setting range 60÷350 bar (red spring)	
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw	Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw
220 bar	**(56)**	**350 bar**	**(142)**

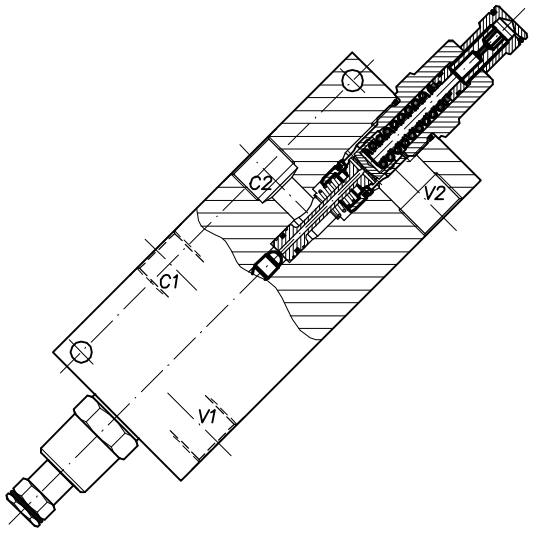
Rapporto di pilotaggio Pilot ratios	
O	4.25 : 1
D	8 : 1

Regolazione Adjustment	
X	Grano - Dowel
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed

OWC-DE-...-LU-CC-...

DOUBLE COUNTERBALANCE VALVE FOR CLOSED CENTRE SPOOL WITH IN LINE BODY





CARATTERISTICHE — PERFORMANCE

Luce nominale min/max	**DN 12/14**	Min/max rated size
Portata min/max Pressione	**1/160 l/min - 0.26/42.3 GPM**	Min/max flow-rate Max
di lavoro max. Pressione	**350 bar - 5075 PSI**	working pressure Max
max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**6.2 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Peso		Weight

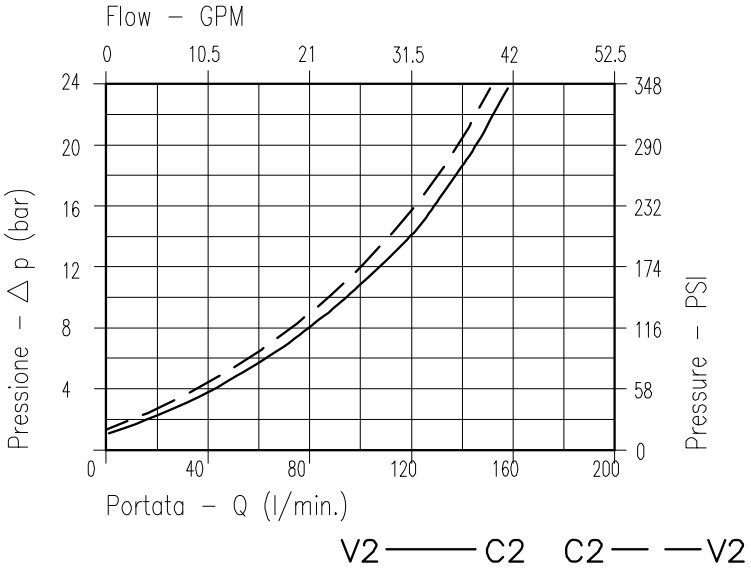
NOTE:

Valve should be set at **1.3** times load induced pressure.

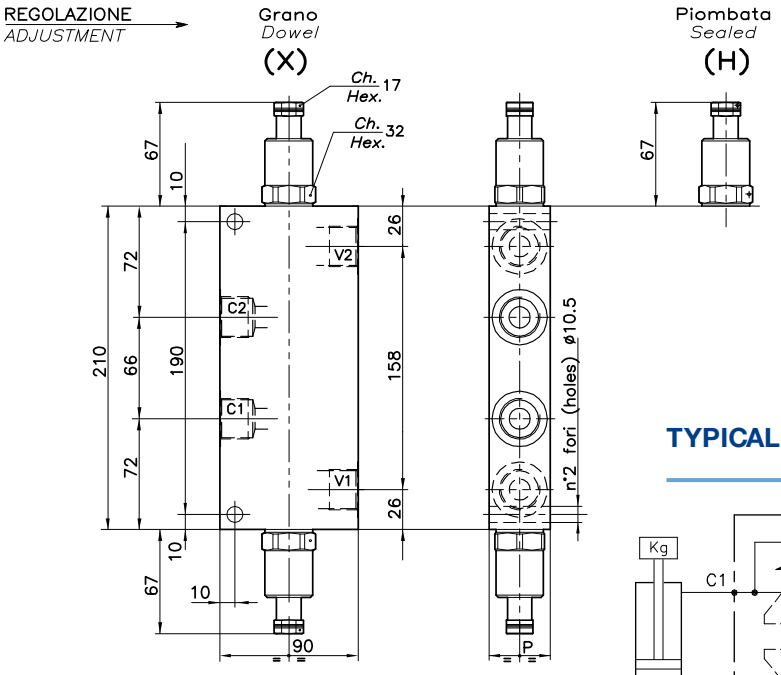
EXAMPLE:

Max working pressure:

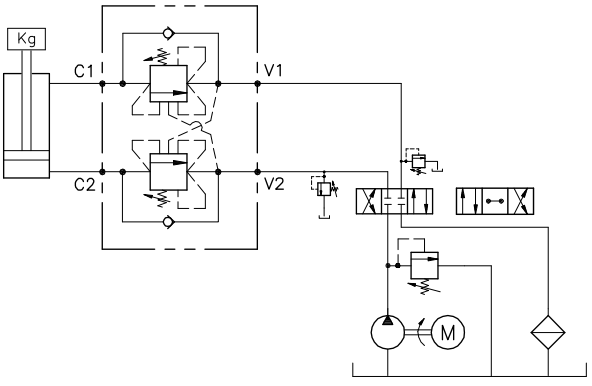
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



TYPICAL CIRCUIT EXAMPLE



DIMENSIONS

Campo taratura Setting range	P	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
463	40	3/4”	12	120-31
464	50	1”	14	180-47

HOW TO ORDER

001 463 0 X 0

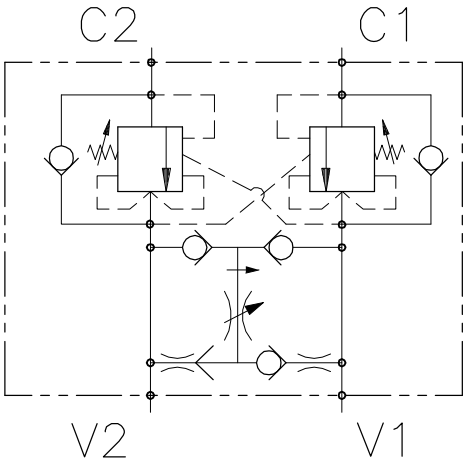
Campo taratura / Setting range
463
464
Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **350 bar** — Incr. press. - bar giro/vite Pressure rise - turn of screw **(138)**

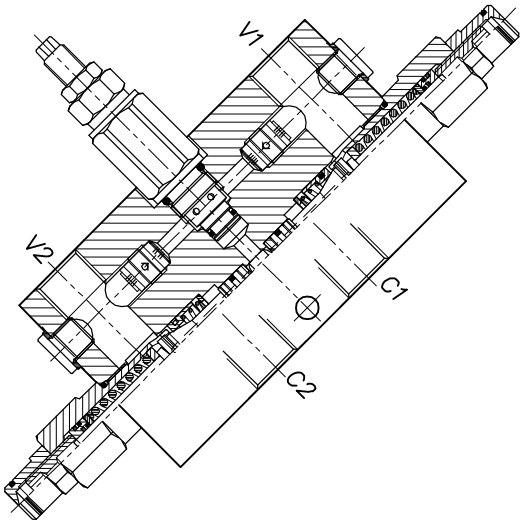
Rapporto di pilotaggio Pilot ratios	
O	6.2 : 1
G	4 : 1

Regolazione Adjustment	
X	Grano - Dowel
H	Piombata - Sealed

WB-CC-12-L-VSTC-20-R

DOUBLE COUNTERBALANCE VALVE FOR CLOSED CENTRE SPOOL, FOR SLEWING APPLICATIONS





CARATTERISTICHE — PERFORMANCE

Luce nominale	**DN 10**	Rated size
Portata min/max	**1/60 l/min - 0.26/15 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4.25 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso		Weight

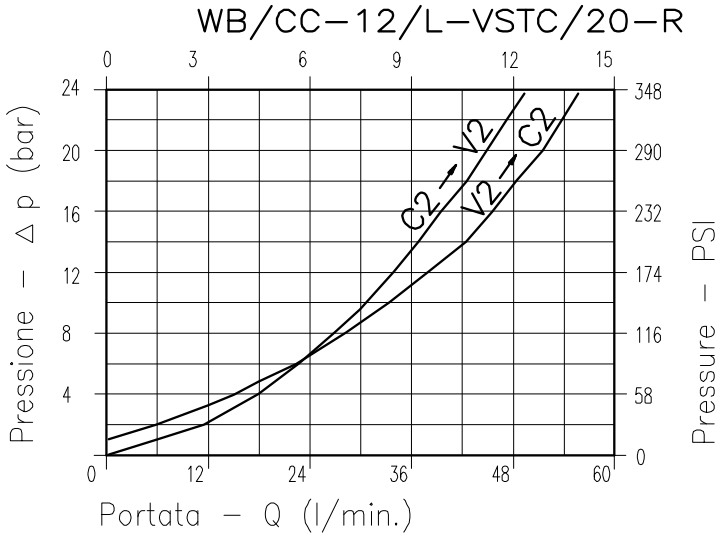
NOTE:
La taratura deve essere **1.3** volte maggiore della pressione indotta dal carico.

Valve should be set at **1.3** times load induced pressure.

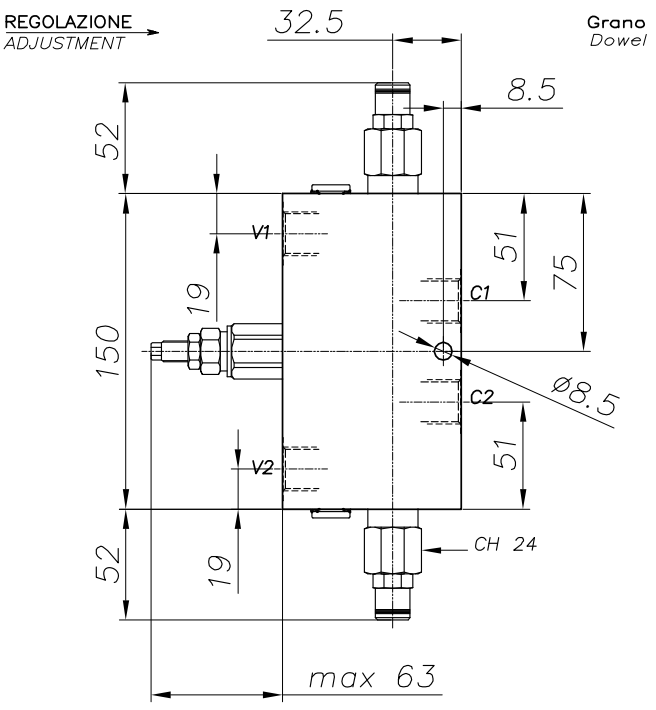
ESEMPIO/EXAMPLE:
Pressione di lavoro max:

Max working pressure:

350 bar / 1.3 = 270 bar



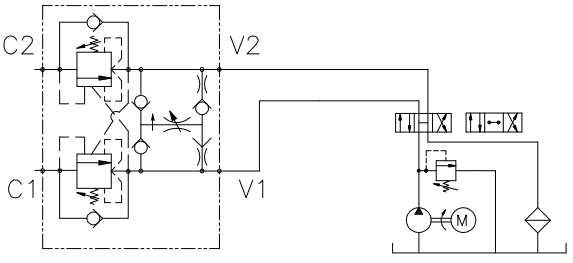
Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



DIMENSIONS

Campo taratura Setting range	Corpo Body	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
105	Acciaio Steel	1/2”	10	60-15

CIRCUIT EXAMPLE



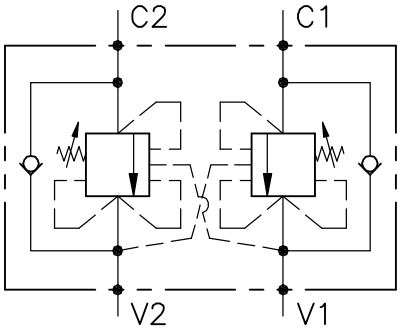
HOW TO ORDER

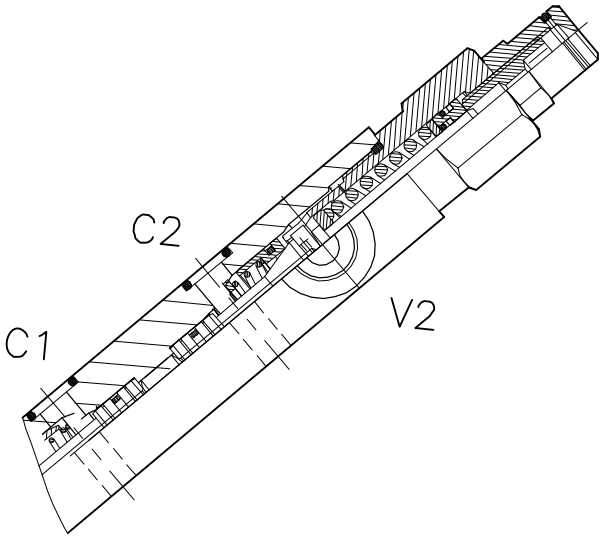
010 489 105

Campo taratura / Setting range
105
Campo taratura 30÷350 bar (molla colore rosso) Setting range 30÷350 bar (red spring)
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’) **220 bar** | Incr. press. - bar giro/vite Pressure rise - turn of screw **(142)**

WB-CCN-DE-...-LU-FC2-OIL-...

DOUBLE COUNTERBALANCE VALVE FOR CLOSED CENTRE SPOOL WITH FLANGEABLE BODY





CARATTERISTICHE

		PERFORMANCE
Luce nominale min/max	**DN 8/10**	Min/max rated size
Portata min/max	**1/60 l/min - 0.26/15.9 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure Pilot
Rapporto di pilotaggio	**Vedi pagina succ. - See next page**	ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio Filtraggio	**-30°C + 80°C**	Oil temperature
consigliato Peso	**30 micron**	Recommended filtration
		Weight

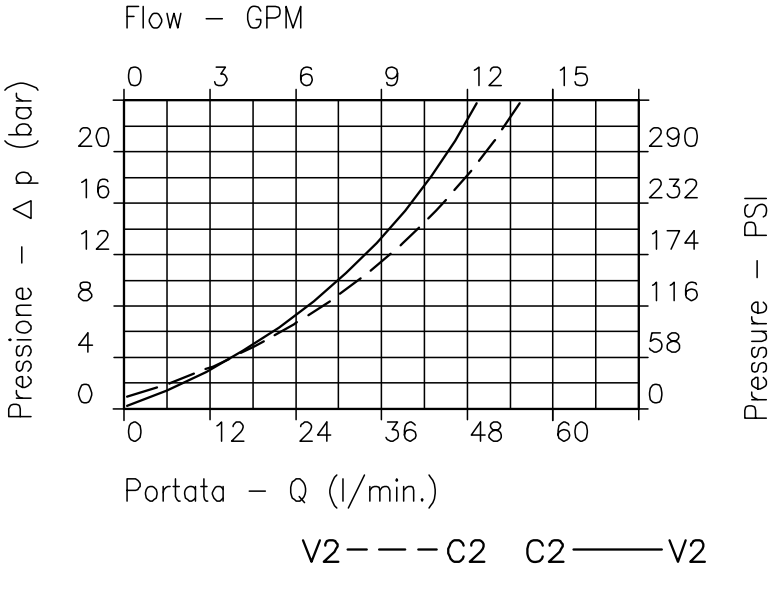
NOTE:
La taratura deve essere **1.3** volte maggiore della pressione indotta dal carico.

Valve should be set at **1.3** times load induced pressure.

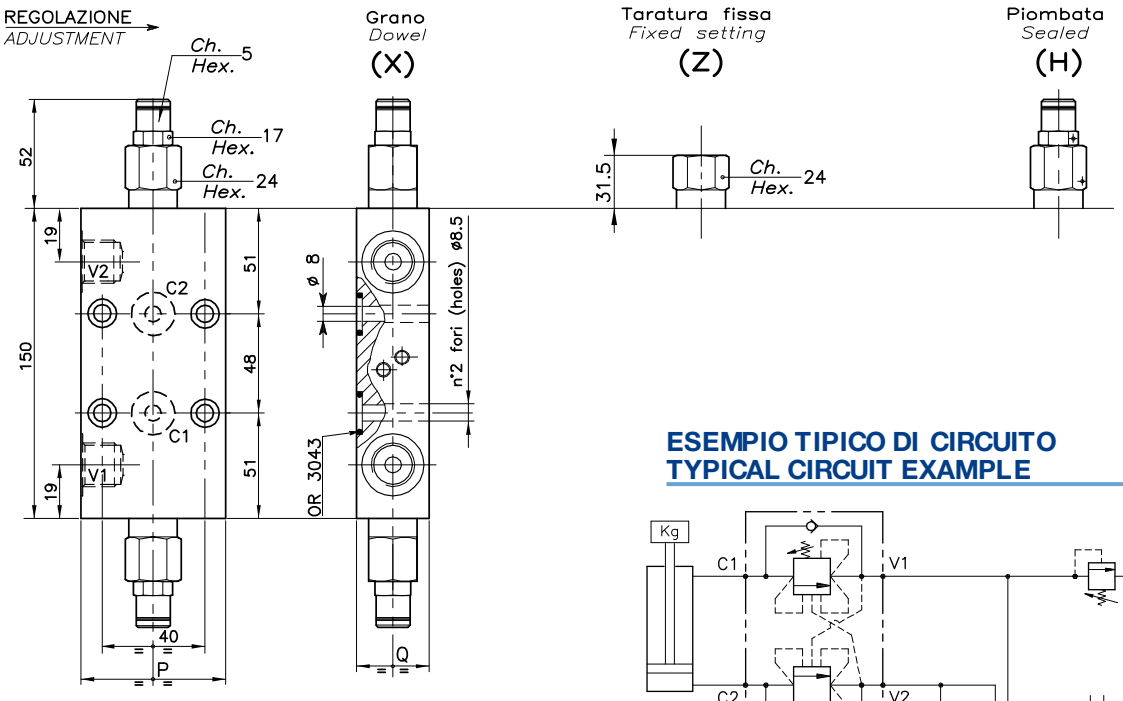
ESEMPIO/EXAMPLE:
Pressione di lavoro max:

Max working pressure:

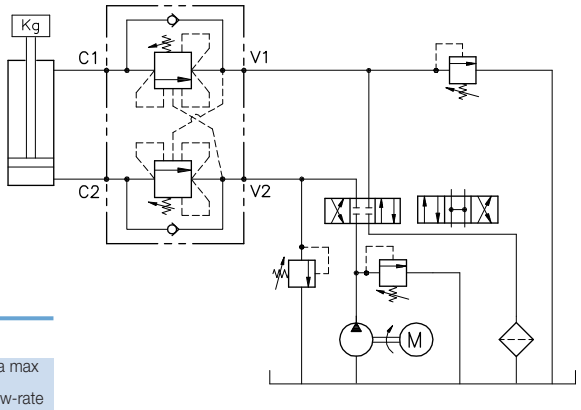
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



ESEMPIO TIPICO DI CIRCUITO
TYPICAL CIRCUIT EXAMPLE



DIMENSIONI
DIMENSIONS

Campo taratura / Setting range		P	Q	Attacchi Port size V2-V1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
121	120	55	29.5	3/8"	8	40-10
123	122	65	34.5	1/2"	10	60-15

HOW TO ORDER

001 121 0 X 0

Campo taratura / Setting range

121	120
123	122
Campo taratura 30÷220 bar (molla colore verde) Setting range 30÷220 bar (green spring)	Campo taratura 60÷350 bar (molla colore rosso) Setting range 60÷350 bar (red spring)

Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1')	Incr. press. - bar giro/vite Pressure rise - turn of screw	Taratura standard (Q=5 l/1') Std. bar setting (Q=5 l/1')	Incr. press. - bar giro/vite Pressure rise - turn of screw
220 bar	**(56)**	**350 bar**	**(138)**

Rapporto di pilotaggio / Pilot ratios

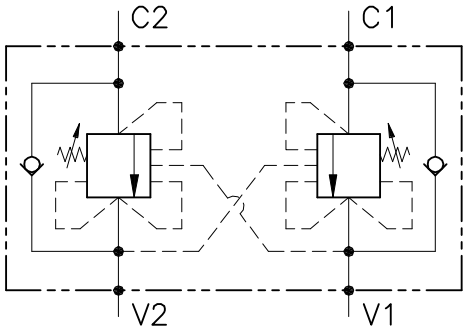
O	4.25 : 1
D	8 : 1
W	4.25 : 1 C1 - V1 8 : 1 C2-V2

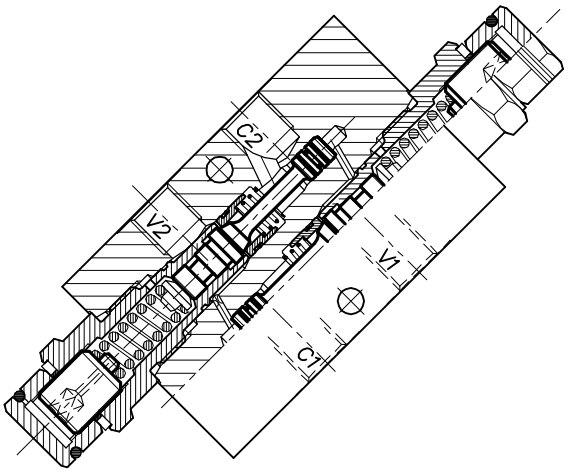
Regolazione / Adjustment

X	Grano - Dowel
Z	Taratura fissa - Fixed setting
H	Piombata - Sealed

OWC-CC-30-DEI-14-L

DOUBLE COUNTERBALANCE VALVE FOR CLOSED CENTRE SPOOL WITH FLANGEABLE BODY,





CARATTERISTICHE

PERFORMANCE

Luce nominale	**DN 6**	Rated size
Portata min/max	**1/25 l/min - 0.26/6.6 GPM**	Min/max flow-rate Max
Pressione di lavoro max.	**350 bar - 5075 PSI**	working pressure Max
Pressione max. di taratura	**350 bar - 5075 PSI**	setting pressure
Rapporto di pilotaggio standard	**4 : 1**	Standard pilot ratio
Temperatura ambiente	**-30°C + 50°C**	Room temperature
Temperatura olio	**-30°C + 80°C**	Oil temperature
Filtraggio consigliato	**30 micron**	Recommended filtration
Coppia di serraggio		Tightening torque
Peso	**0.300 Kg**	Weight

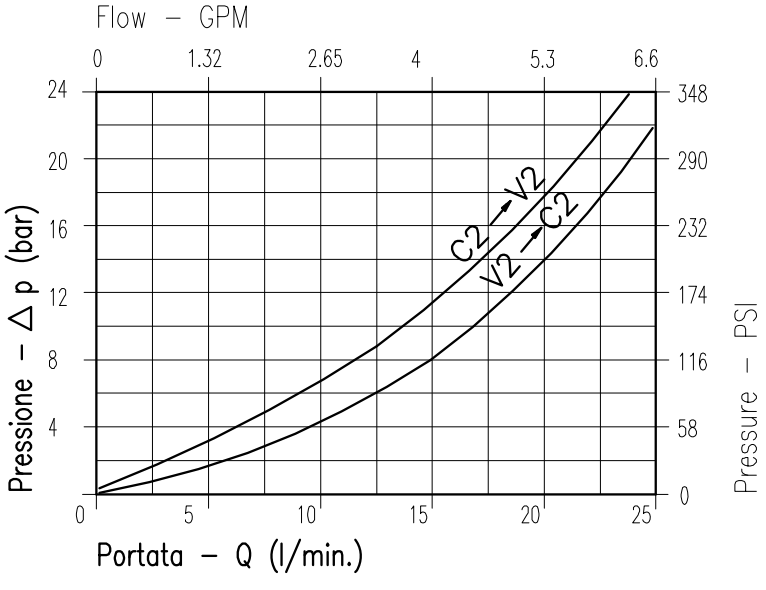
NOTE:

Valve should be set at **1.3** times load induced pressure.

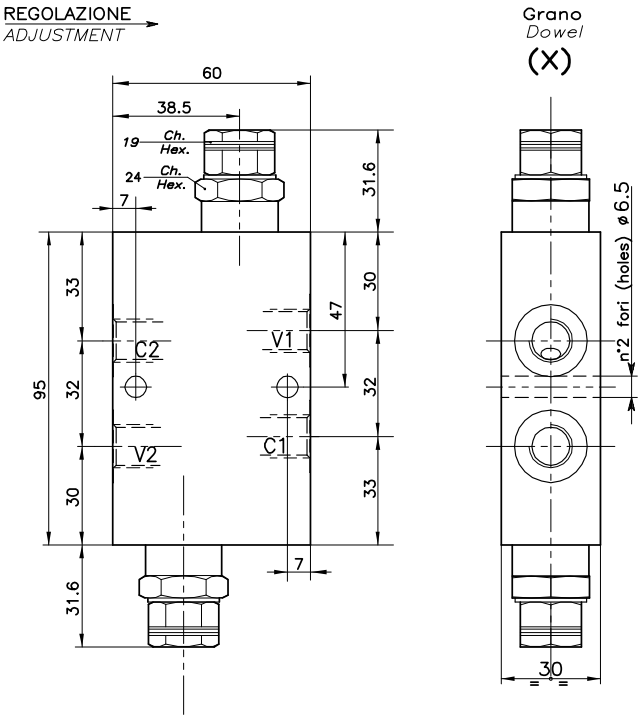
ESEMPIO/EXAMPLE:

Max working pressure:

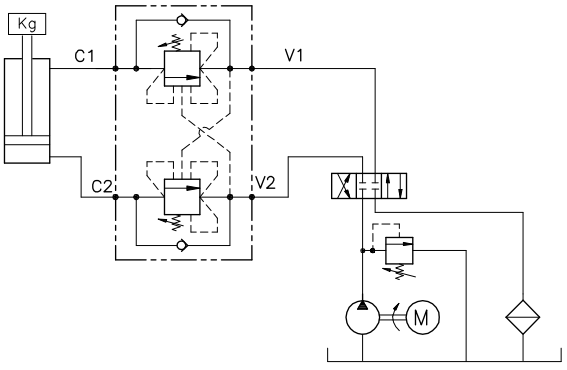
350 bar / 1.3 = 270 bar



Viscosità olio 46 cSt a 50°C
Oil viscosity 46 cSt at 50°C



ESEMPIO TIPICO DI CIRCUITO
TYPICAL CIRCUIT EXAMPLE



DIMENSIONI
DIMENSIONS

Campo taratura Setting range	Attacchi Port size V2-C2 V1-C1 GAS (BSPP)	Luce nominale Rated size DN	Portata max Max flow-rate l/min - GPM
626	1/4”	6	25-6

HOW TO ORDER

001 626 0 X 0

Campo taratura / Setting range			
...		626	
Campo taratura 30÷280 bar (molla colore verde) Setting range 30÷280 bar (green spring)		Campo taratura 60÷350 bar (molla colore giallo) Setting range 60÷350 bar (yellow spring)	
Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw	Taratura standard (Q=5 l/1’) Std. bar setting (Q=5 l/1’)	Incr. press. - bar giro/vite Pressure rise - turn of screw
250 bar	**(56)**	**350 bar**	**(138)**

Rapporto di pilotaggio Pilot ratios	
O	4 : 1
F	7 : 1

Regolazione Adjustment	
X	Grano - Dowel
H	Piombata - Sealed