

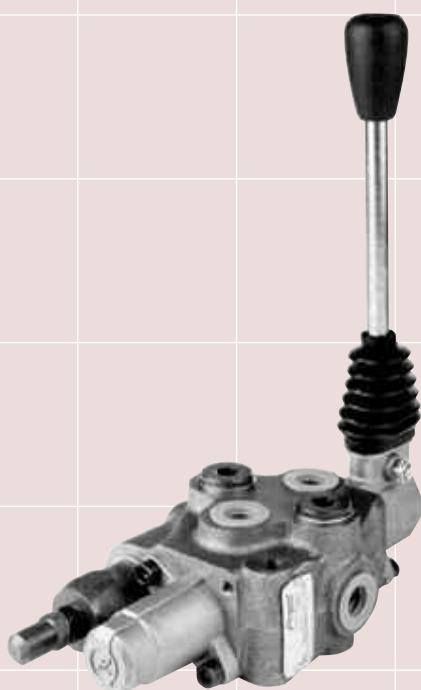
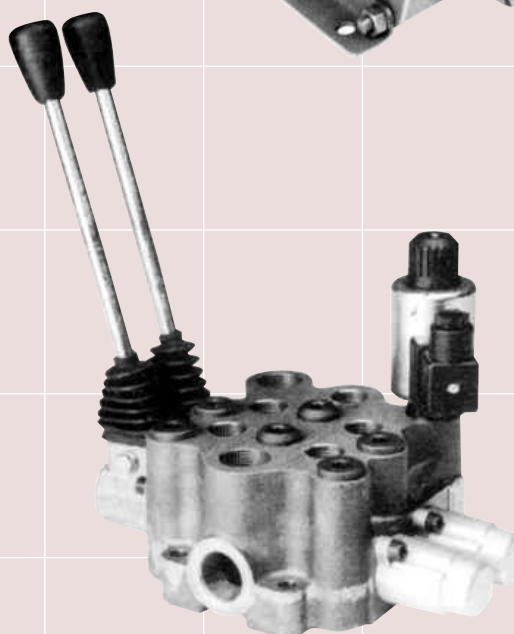
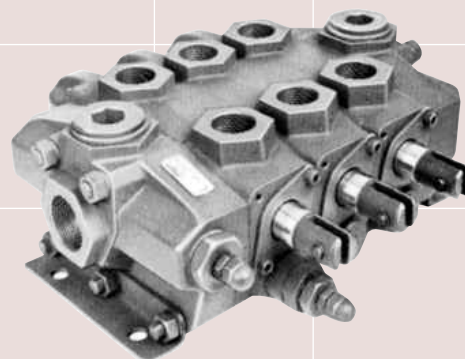
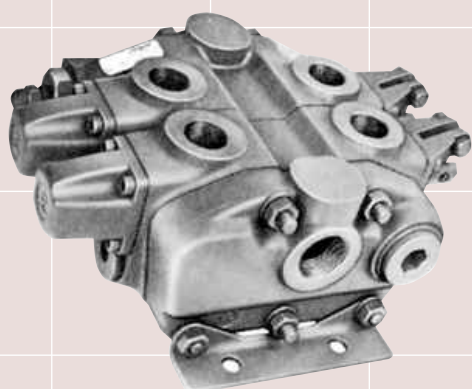


Roquet



Componentes oleo-dinámicos
Hydraulic components

08.10.00/0600



Distribuidores manuales
Directional control valves

Presentamos en este catálogo, nuestra gama de válvulas direccionales o distribuidores, destinados principalmente a los equipos de Obras Públicas, agricultura, pesca, etc.

Los sistemas de distribución pueden ser en serie, serie-paralelo o paralelo, según el modelo de distribuidor.

El sistema de accionamiento puede ser mediante palanca manual, pilotaje hidráulico, pilotaje neumático y también eléctrico según los modelos o combinaciones de ellos.

Existe gran variedad de válvulas auxiliares (sobrepresión, aspiración, bypass,...) con la posibilidad de incorporar en cada cuerpo de distribución, para poder adecuar las prestaciones a cada necesidad de la instalación.

Las condiciones de trabajo: presión, caudal, temperatura, etc. Se especifican para cada modelo en las páginas siguientes.

Índice

Datos técnicos.....	3
Nomenclatura de referencias	4
Distribuidor serie modelos 102-1102.....	6
Distribuidor paralelo modelos 402-1402.....	10
Distribuidor paralelo modelos 406-1406.....	11
Distribuidor paralelo modelos 504-1504.....	15
Distribuidor paralelo modelo 407.....	17
Distribuidor paralelo modelo 1408.....	18
Accionamientos corredera.....	21
Distribuidores con palanca rotativa	25
Distribuidores accionados por palanca múltiple o cable.....	26
Mandos neumáticos e hidráulicos	27
Reguladores de caudal 3 vías.....	30
Distribuidor 402 todo-nada (alimentación interna)	31
Distribuidor 402 todo-nada (alimentación externa).....	32
Distribuidor 406 todo-nada (alimentación interna)	33
Distribuidor 406 todo-nada (alimentación externa).....	34

In this catalogue we present our range of directional control valves. The main applications for these valves include agricultural, mechanical handling, construction and earth-moving machinery.

The valves are either series, series/parallel or parallel, depending on model range.

A wide range of manual, hydraulic, pneumatic and electrical control options are available, depending on model.

Auxiliary valves such as port reliefs, anti-cavitation valves, un-loading valves, etc. can be fitted to suit individual application requirements.

The rated flows, pressures, temperatures, etc. are detailed for each valve model in the following pages.

Index

Technical Data.....	3
Part numbering system	4
Directional control valve model 102-1102	6
Directional control valve model 402-1402	10
Directional control valve model 406-1406	11
Directional control valve model 504-1504	15
Directional control valve model 407.....	17
Directional control valve model 1408.....	18
Spool controls.....	21
Valves with rotary spool control.....	25
Valves with joystick and cable controls.....	26
Pneumatic and hydraulic remote controls	27
3-way flow controls	30
402 on/off electrical directional control valve (external pilot)	31
402 on/off electrical directional control valve (internal pilot)	32
406 on/off electrical directional control valve (external pilot)	33
406 on/off electrical directional control valve (internal pilot)	34

Datos técnicos Technical data										
Tipo distribuidor Control valves type	102	1102	402	1402	504	1504	406	1406	407	1408
Tomas A y B (BSP) Ports	3/8"	1/2"	3/8"	1/2"	3/8"	1/2"	1/2"	3/4"	3/4"	1"
Número elementos (*) Spool quantity	6	2	7		4		7		6	
Diámetro corredera mm. Spool diameter	15				16		18		22	28
Carrera corredera mm. Spool stroke	5,5				6		7		9	11
Alimentación tipo Type	Serie Serie		Paralelo Parallel							
Caudal nominal l/min. Nominal flow	40	60	50		80				150	300
Presión máxima de trabajo bar Working max. pressure	350									
Presión máx. retorno bar Return max. pressure	Corredera estática Static spool		80							
	Durante acc. corredera During spool positioning		20							
Fuerza acc. directamente en corredera kg. Spool force	16		18						27	35
Fluido recomendado Fluid to be used	ISO 6743 Tipo HM, HV, HG ISO 3448 Cat. VG32, VG46									
Gama de temperaturas Temperature range	-20°C ... +80°C									
Viscosidades Viscosity range	4 — 500 cSt									
Grado de limpieza del aceite Recommended fluid cleanliness	19/16 s/ISO 4406 - RP70H									

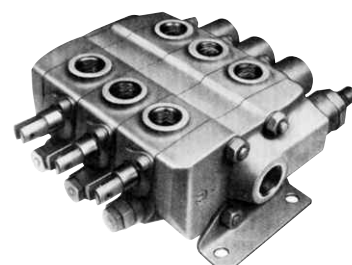
(*) Para nº de elementos superior, consulten el D.T.
For more spools, consult supplier



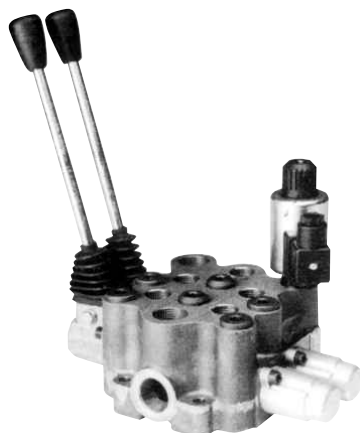
102-1102



402-1402



406-1406



504-1504



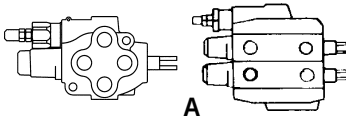
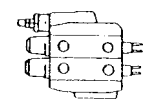
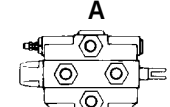
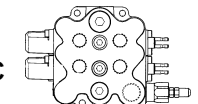
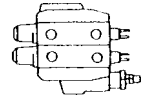
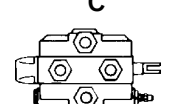
407



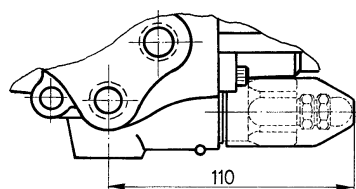
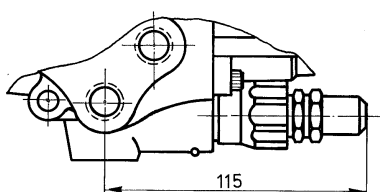
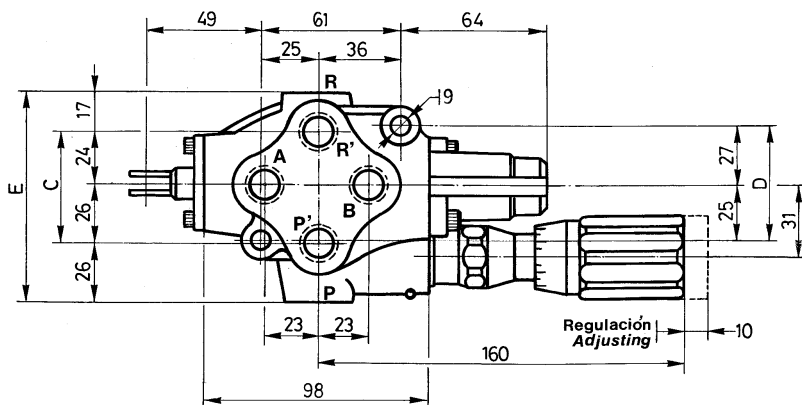
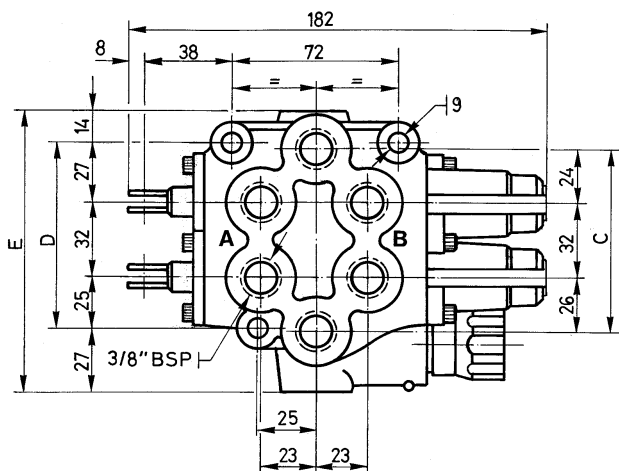
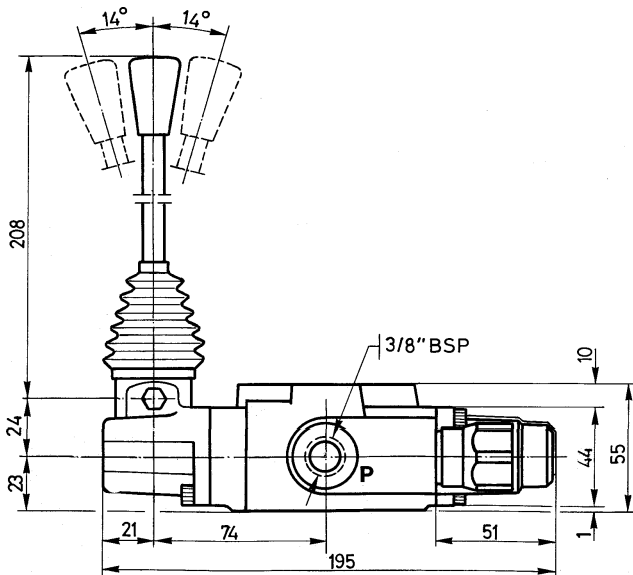
1408

NOMENCLATURA DE REFERENCIAS							406	N	1	P	A	12	D	24	L12	CODING SYSTEMS			
Tipo distribuidor Control valve type														Con válvula puesta en vacío eléctrica With electrical unloading valve					
102-1102-402-1402-504-1504-406-1406-407-1408																			
Forma de retorno ó sistema de trabajo Return form														Gama de tensiones para C.C. (sólo para accionamientos 81-82) D.C. voltage range (only for control types 81-82)					
N	Paso libre Free flow													12	12 V		24	24 V	
Z	Retorno con presión H.P.C.O.																		
C	Centro cerrado Closed centre																		
LN	Para uso con bombas “LS” (centro abierto) For use with “LS” pumps (free flow)																		
LC	Para uso con bombas “LS” (centro cerrado) For use with “LS” pumps (closed centre)										Sistemas de distribución Spool types								
							Ver símbolos en pag. correspondientes See symbols in relevant pages				NOTA: El orden de las correderas se empieza a contar a partir de la válvula de seguridad. NOTE: The spools order will be listed from the pressure to the exhaust port.								
Accionamiento corredera Spool positioning devices							102 1102	402 1402	504 1504	406 1406	407 1407	408 1408							
1	Tres posiciones recuperación por muelle 5 — 175 bar Three positions, return to neutral by spring						X	X	X	X	X	X							
2	Tres posiciones con anclajes Three positions with detent						X	X	X	X	X	X							
3	Dos posiciones extremas empujando corredera Two end positions, action pushing spool						X			X	X								
4	Dos posiciones intermedia y extrema empujando corredera (406 NO) Two positions, action pushing spool						X	X		X	X	X							
5	Microrruptor. Muelle de 5 — 175 bar (1408 NO) Microswitch						X	X	X	X	X								
6	Doble salida corredera. Muelle de 5 — 175 bar (1408 NO) Double end actioned spool						X	X	X	X									
7	Dos posiciones con anclajes y la tercera por muelle. (406 y 1408 NO) Two positions with detent third return by spring						X	X	X	X	X								
8	Los sistemas de accionamiento no son iguales Several operating forms						X	X	X	X	X	X							
9	Dos posiciones extremas con anclajes Two ends positions with detent						X	X	X	X	X	X							
11	Igual que accionamiento 1, muelle 175 — 250 bar As type 1, spring for 175 — 250 bar						X		X		X								
12	Retorno al punto central por muelle y con palancas tipos: J - U - V - B - R Spring return to neutral with levers type J, U, V, B, R									X									
13	Dos posiciones extremas tirando correderas Two end positions, action pulling spool						X			X									
14	Dos posiciones intermedia y extrema con anclajes empujando corredera (con aro) Two positions, neutral and end with detents pushing spool (with circlip)						X		X										
15	Igual que accionamiento 5, muelle 175 — 250 bar As type 5, spring for 175 — 250 bar						X		X										
16	Igual que 6, muelle 175 — 250 bar As type 6, spring for 175 — 250 bar						X		X										
17	Tres posiciones pilotaje hidráulico Three positions hydraulic piloted								X	X	X	X							
18	Cuatro posiciones ancladas tirando palanca Four detent positions pulling the hand lever											X							
19	Cuatro posiciones, tres normales y la cuarta anclada empujando corredera Four positions, three return by spring the fourth detented pushing spool											X							
20	Cuatro posiciones, tres normales y la cuarta anclada tirando corredera Four positions, three return by spring the fourth detented pulling spool						X	X		X	X	X							
22	Tres posiciones pilotaje neumático Three positions pneumatic pilot						X	X	X	X	X								
35	Accionamiento rotativo Rotative detent						X	X	X	X	X	X							
36	Igual que accionamiento 7, pero anclaje apretando corredera As type 7, but detent pushing spool						X												
37	Accionamiento doble, dos correderas con una palanca Double action, two spools with one lever								X										
42	Tres posiciones con anclajes (con bolas) Three positions with ball-bearing detents						X	X	X										
47	Tres posiciones politaje neumático correderas sensibilizadas Three position pneumatic pilot with proportional spools							X	X	X	X								
49	Dos posiciones extremas con anclajes (con bolas) Two end positions with ball-bearing detents								X										
51	Accionamiento eléctrico-hidráulico proporcional alimentación interna (Sólo 402, 1402, 406, 1406) Proportional electro-hydraulic with internal pilot (only 402, 1402, 406, 1406)							X		X									
52	Accionamiento eléctrico-hidráulico proporcional alimentación externa (Sólo 402, 1402, 406, 1406) Proportional electro-hydraulic with external pilot (only 402, 1402, 406, 1406)							X		X									
63	Dos posiciones extremas con doble salida corredera Two end positions with double-ended spool						X												
81	Acción. eléctrico-hidráulico todo-nada. Alimentación interna (Sólo 402, 1402, 406, 1406) On/off electro-hydraulic with internal pilot (only 402, 1402, 406, 1406)							X		X									
82	Acción. eléctrico-hidráulico todo-nada. Alimentación externa (Sólo 402, 1402, 406, 1406) On/off electro-hydraulic with external pilot (only 402, 1402, 406, 1406)							X		X									

Taraje válvula seguridad Relief valve pressure range					
Tipo regulación / Adjustment				Gama de taraje Pressure range bar	(A) Solo 102-1102 (B) Todos los tipos All types (C) Solo 102-1102 (D) Solo 102-1102-402-1402-406-1406
Fija (A) Pre-set	Regulable (B) Adjustable	Volante (C) Knob	Precinto (D) Pre-set		
1	11	21	41	5-80	
2	12	22	42	85-175	
3	13	23	43	180-250	
4	14	24	44	255-350	
Para distribuidores sin válvula de seguridad se omitirá el número de taraje, y en los tipos 102 y 1102 también la letra que indica la posición. For valves without reliefs the pressure range number is omitted and for 102 and 1102 also the relief position letter.					

Posición válvula de seguridad o entrada presión Relief valve position							
102-1102 402-1402		406-1406	A		407-1408	A	
504-1504			C			C	

Tipo de palanca mando Hand lever type	
C	Tapa con palanca sin protector - Tipos 407-1408 Lever without bellows - Types
P	Standard (palanca con protector) - Tipos 102-1102-402-1402-504-1504-406-1406 Standard (lever with protective bellows) - Types
H	Igual que tipo “C” pero sin palanca - Tipos 407-1408 As type “C” but without lever - Types
X	Cuando lleve palancas diferentes ó múltiples When different handles or joysticks are fitted
Y	Para accionamiento 17 (pilotaje hidráulico) For control type 17 (hydraulic piloted)
Z	Igual que tipo “P” pero sin palanca - Tipos 102-1102-402-1402-504-1504-406-1406 As type “P” but without lever - Types
I	Accionamiento por cable Cable operated
S	Sin palanca y tapa sin orejas When no lever needed, a cover without ears will be assembled



Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
C	50	82	114	146	194	226
D	52	84	116	148	196	228
E	93	125	157	189	237	269
Peso en kg. Weight in kg.	2,6	3,8	5	6,2	9	10

P-P' = Entrada a presión indistintamente
Both are pressure ports

A-B = Tomas a cilindros o motores
Outlet ports

R-R' = Retorno a depósito en distribuidores normales
Both are exhaust ports

EN DISTRIBUIDORES CON RETORNO A PRESION
CONTROL VALVES WITH HIGH PRESURE CARRY OVER

R = Salida utilizable con presión
High pressure carry over

R' = Retorno a depósito
Exhaust port

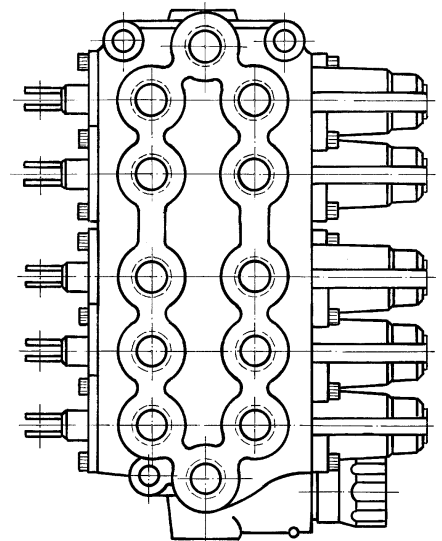
EN DISTRIBUIDORES DE CENTRO CERRADO
CONTROL VALVES WITH CLOSED CENTRE

R = Estará cerrado
Closed

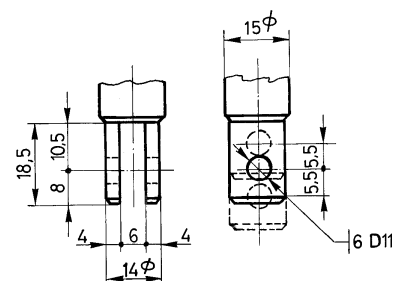
R' = Retorno a depósito
Exhaust port

Con corredera tipo S y B se tapará la toma B
With spool S-B the port B will be plugged

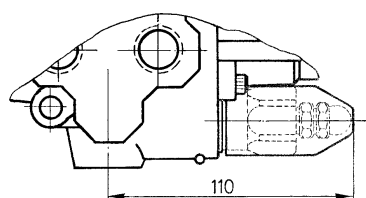
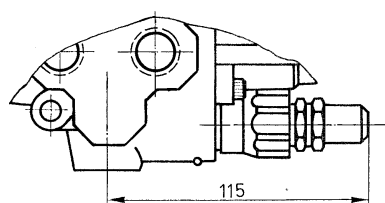
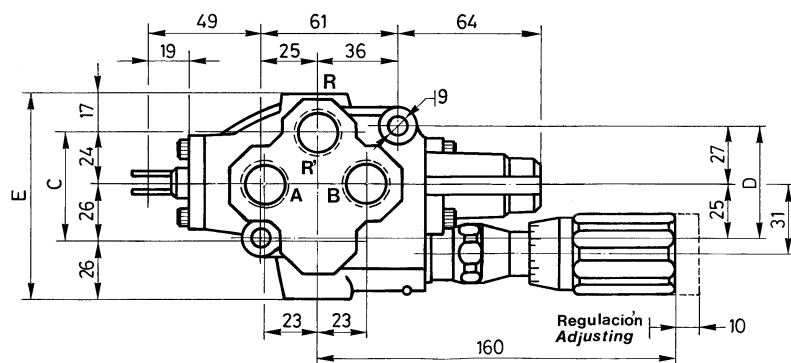
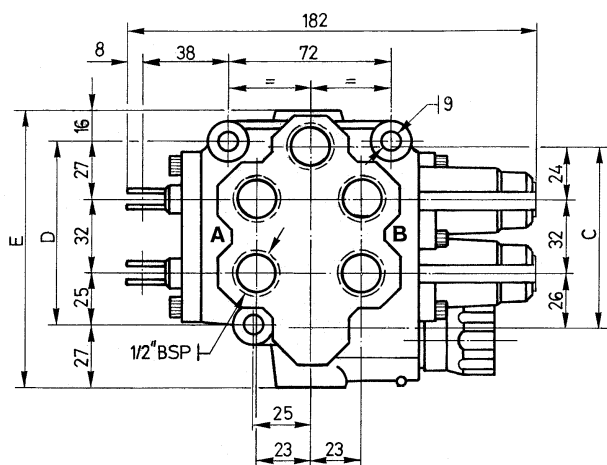
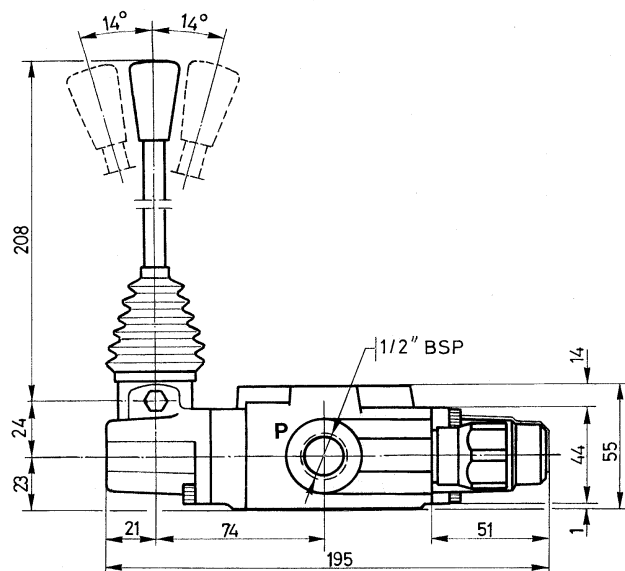
Con corredera tipo V y C se tapará la toma A
With spool V-C the port A will be plugged



DETALLE PARA 5 Y 6 ELEMENTOS
DETAIL FOR 5 AND 6 SPOOLS



DETALLE CABEZA CORREDERA
SPOOL HEAD DETAIL



Nº DE ELEMENTOS SPOOL QUANTITY	1	2
C	50	82
D	52	84
E	95	127
Peso en kg. Weight in kg.	3	4

P-P' = Entrada a presión indistintamente
Both are pressure ports

A-B = Tomas a cilindros o motores
Outlet ports

R-R' = Retorno a depósito en distribuidores normales
Both are exhaust ports

**EN DISTRIBUIDORES CON RETORNO A PRESION
CONTROL VALVES WITH HIGH PRESURE CARRY OVER**

R = Salida utilizable con presión
High pressure carry over

R' = Retorno a depósito
Exhaust port

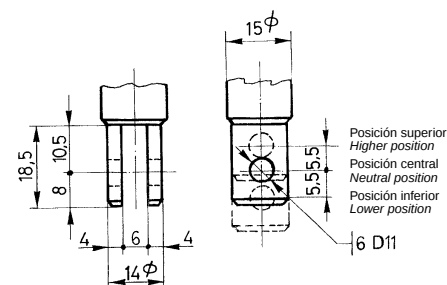
**EN DISTRIBUIDORES DE CENTRO CERRADO
CONTROL VALVES WITH CLOSED CENTRE**

R = Estará cerrado
Closed

R' = Retorno a depósito
Exhaust port

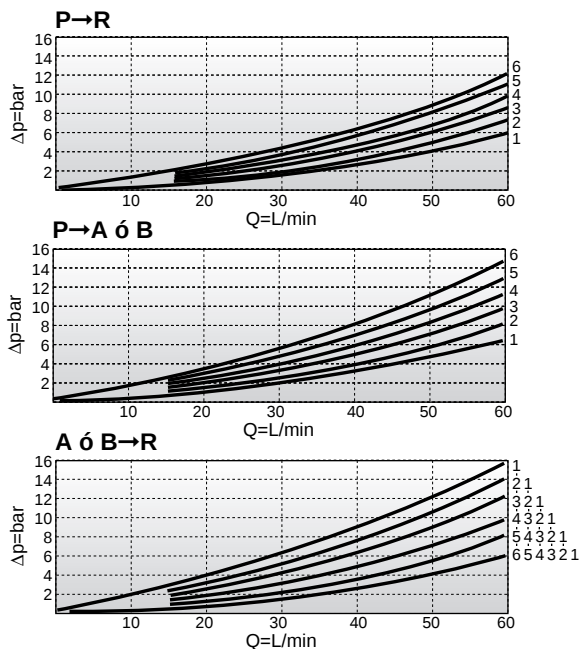
Con corredera tipo S y B se tapaná la toma B
With spool S-B the port B will be plugged

Con corredera tipo V y C se tapaná la toma A
With spool V-C the port A will be plugged

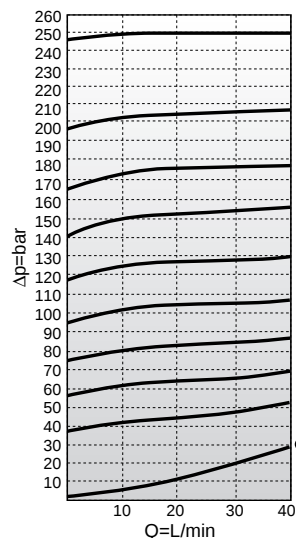


**DETALLE CABEZA CORREDERA
SPOOL HEAD DETAIL**

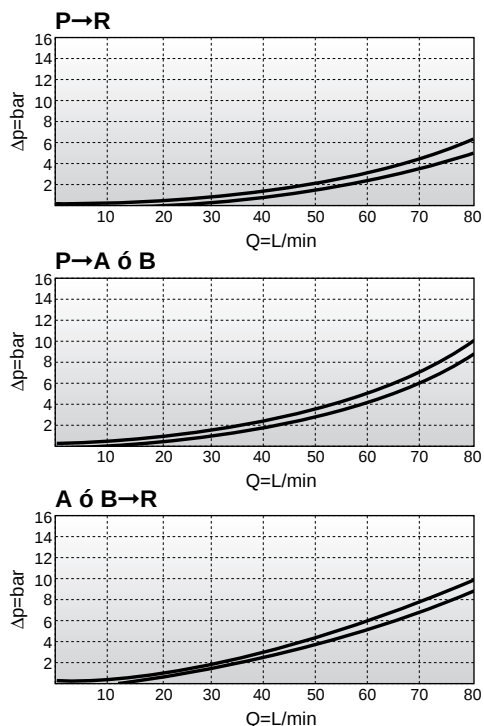
Modelo / Type
102



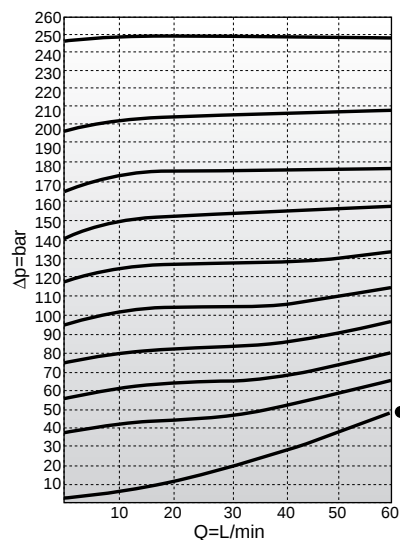
Válvula seguridad
Relief Valve



Modelo / Type
1102

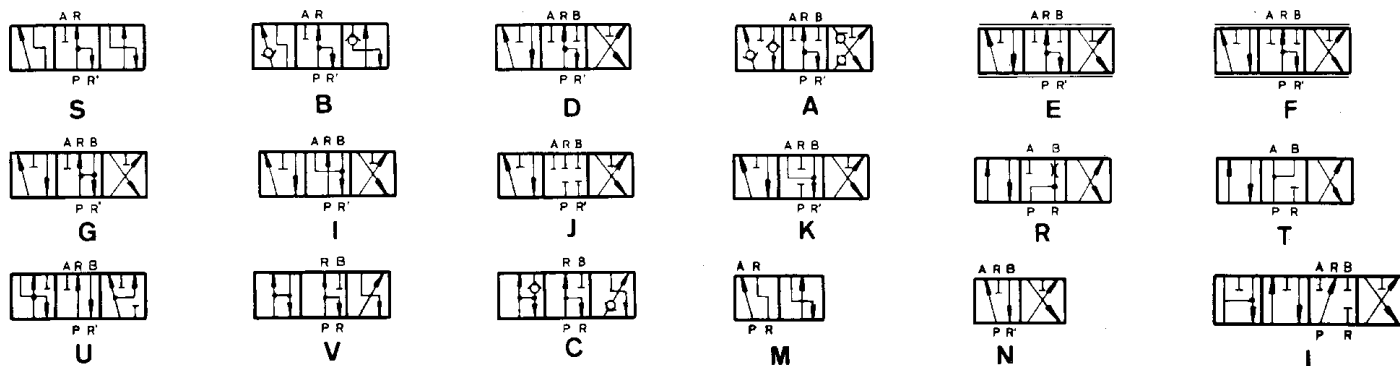


Válvula seguridad
Relief Valve



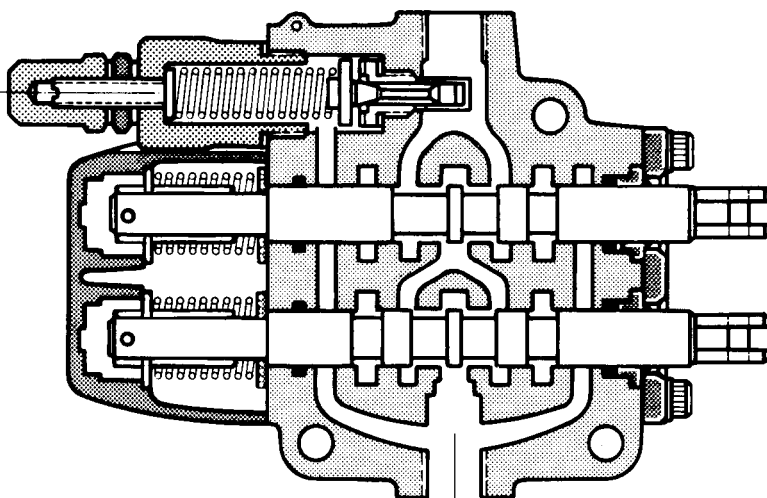
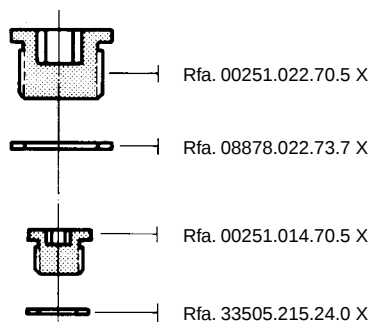
● Curva presión mínima
Minimal pressure curve

Sistemas de distribución standard
Standard spool types

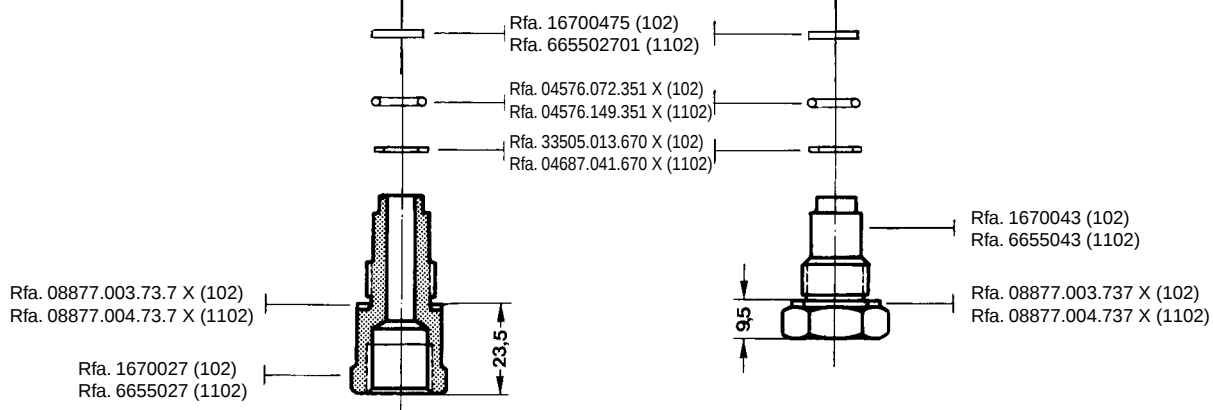


NOTA: La corredera tipo "F" sensibilizada es igual al tipo "E" pero comunicando la toma con retorno antes de iniciarse la presión. No aconsejable para aguantar cargas.
NOTE: Spool "F" proportional is as spool "E" but connecting cylinder port and exhaust before connection with pressure. Not advisable for holding loads.

**Piezas para cuando se desee el
distribuidor sin válvulas de seguridad**
**Part needed when control valve has to be
without relief valve**

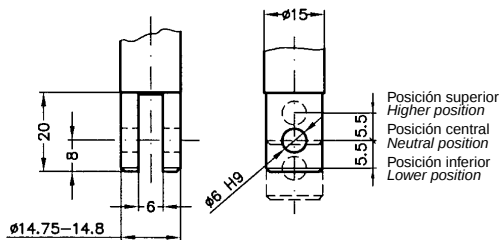
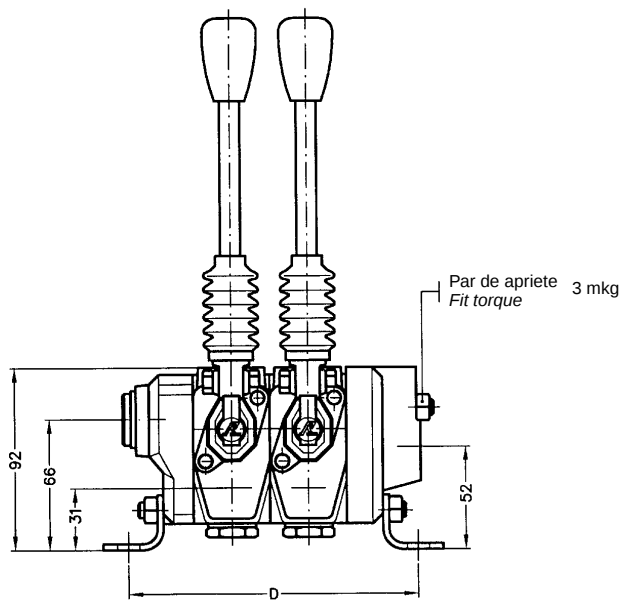


**Corredera con
válvula de retención**
**Spool with internal
check valve**

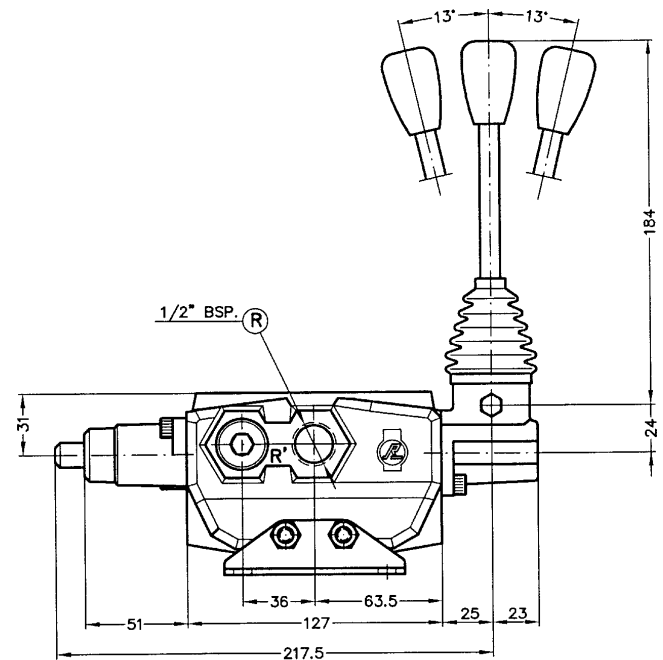


**Piezas para retorno
con presión**
**Parts for pressure
carry over**

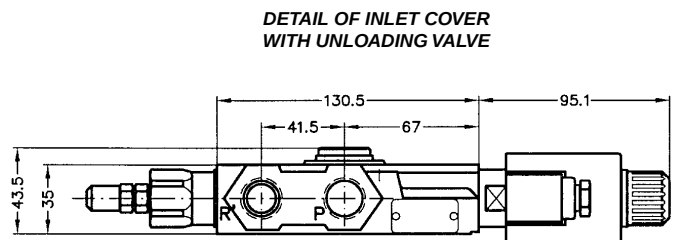
Piezas para centro cerrado
Parts for closed centre



DETALLE CABEZA CORREDERA
SPOOL HEAD DETAIL



**DETALLE CUERPO CON VÁLVULA
PUESTA EN VACIO ELECTRICA**

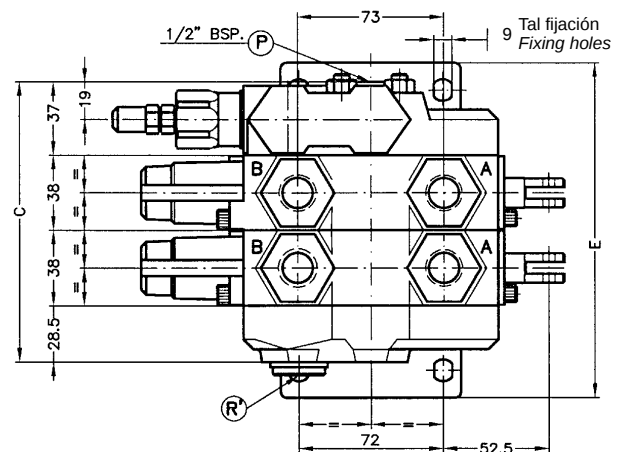


Consumo electroimán 30 W
Solenoid power

- P = Entrada a presión
Pressure port
- A-B = Tomas a cilindros o motores
Outlet ports
- R-R' = Retorno a depósito en distribuidores normales
Both are exhaust ports
- EN DISTRIBUIDORES CON RETORNO A PRESION**
CONTROL VALVES WITH HIGH PRESURE CARRY OVER
- R = Salida utilizable con presión
High pressure carry over
- R' = Retorno a depósito
Exhaust port
- EN DISTRIBUIDORES DE CENTRO CERRADO**
CONTROL VALVES WITH CLOSED CENTRE
- R = Estará cerrado
Closed
- R' = Retorno a depósito
Exhaust port

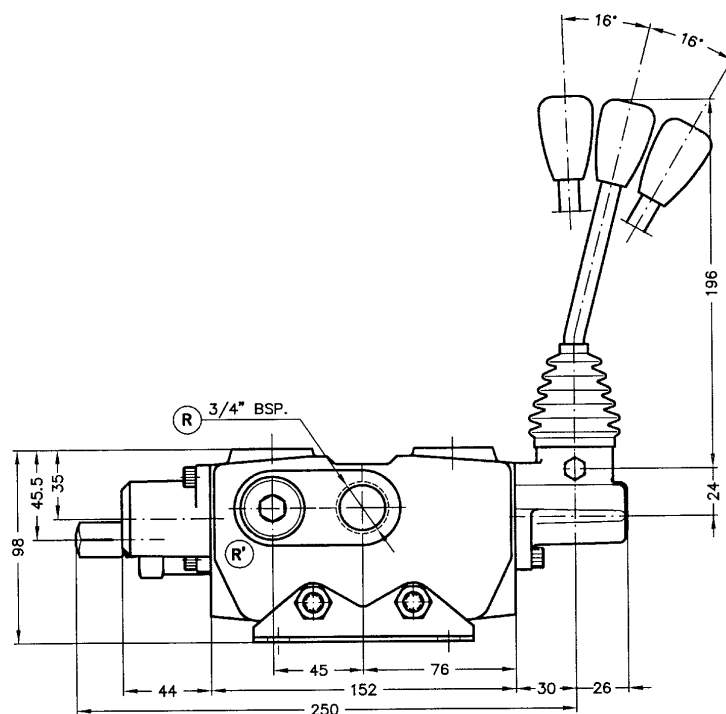
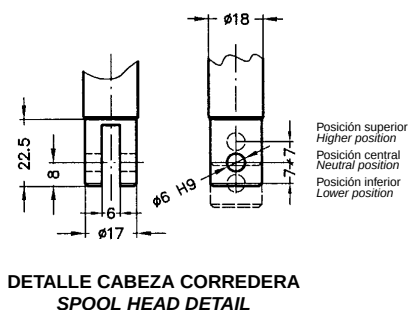
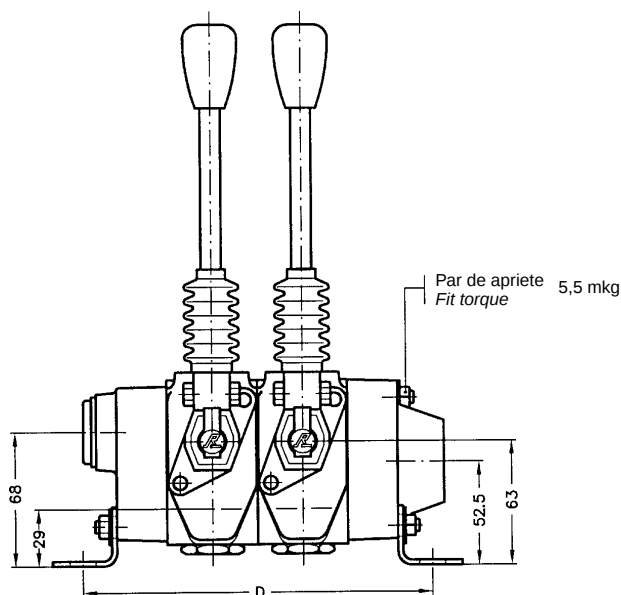
Con corredera tipo S se tapará la toma B
With spool S the port B will be plugged

Con corredera tipo V se tapará la toma A
With spool V the port A will be plugged

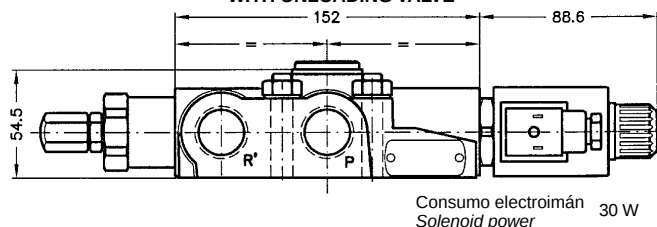


Modelo <i>Type</i>	Tomas A-B <i>Ports</i>
402	3/8" BSP
1402	1/2" BSP

Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
C	103,5	141,5	179,5	217,5	255,5	293,5
D	106	144	182	220	258	296
E	131	169	207	245	283	321
Peso en kg. Weight in kg.	3,5	6,2	9	12	14,5	17,5



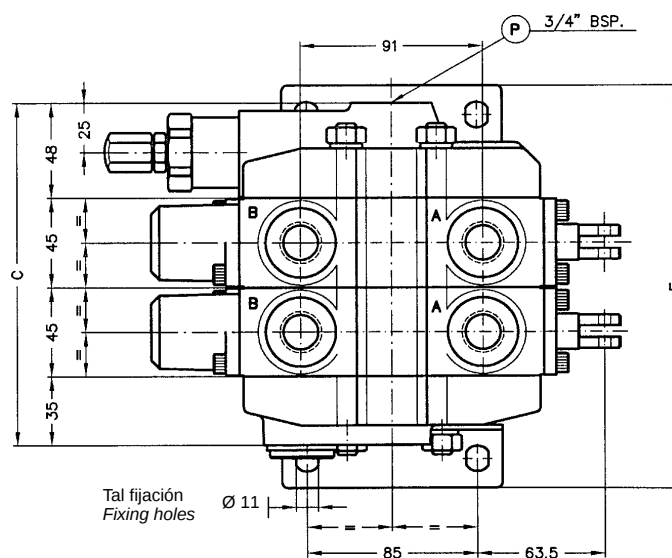
DETALLE CUERPO CON VÁLVULA
PUESTA EN VACÍO ELECTRICA
DETAIL OF INLET COVER
WITH UNLOADING VALVE



- P = Entrada a presión
Pressure port
- A-B = Tomas a cilindros o motores
Outlet ports
- R-R' = Retorno a depósito en distribuidores normales
Both are exhaust ports
- EN DISTRIBUIDORES CON RETORNO A PRESION**
CONTROL VALVES WITH HIGH PRESURE CARRY OVER
- R = Salida utilizable con presión
High pressure carry over
- R' = Retorno a depósito
Exhaust port
- EN DISTRIBUIDORES DE CENTRO CERRADO**
CONTROL VALVES WITH CLOSED CENTRE
- R = Estará cerrado
Closed
- R' = Retorno a depósito
Exhaust port

Con corredera tipo S se tapaná la toma B
With spool S the port B will be plugged

Con corredera tipo V se tapaná la toma A
With spool V the port A will be plugged

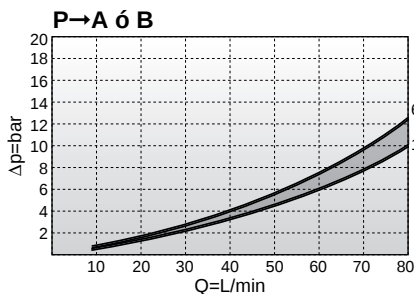
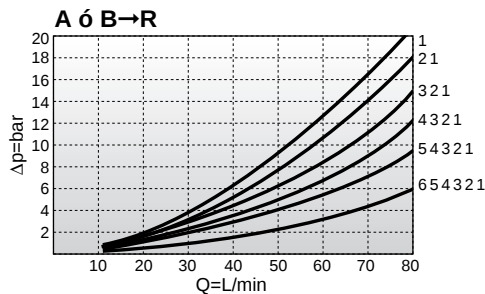
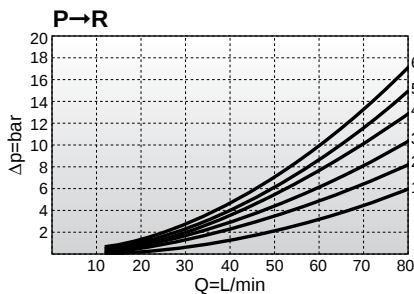


Modelo Type	Tomas A-B Ports
406	1/2" BSP
1406	3/4" BSP

Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
C	128	173	218	263	308	353
D	129	174	219	264	309	354
E	159	204	249	294	339	384
Peso en kg. Weight in kg.	7,8	11,5	15	18	22	28

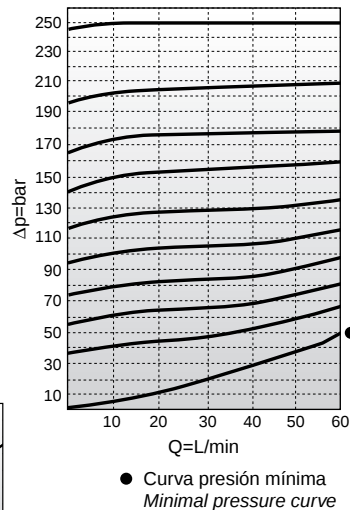
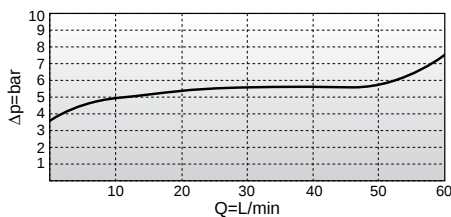
Modelo
Type 402 - 1402

Válvula seguridad
Relief Valve



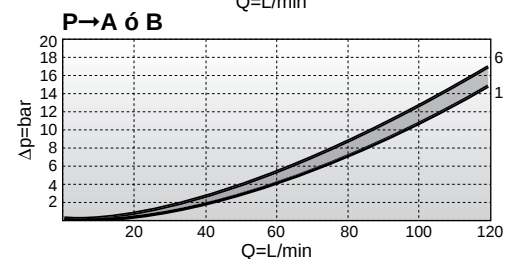
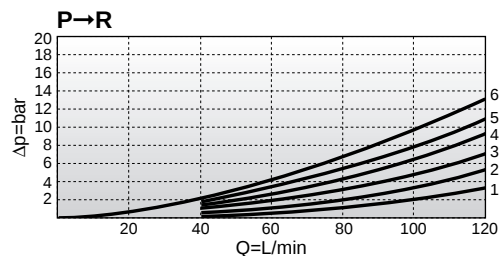
De 1 a 6
elementos
From 1 to
6 elements

Puesta en vacío eléctrico
Unloading valve

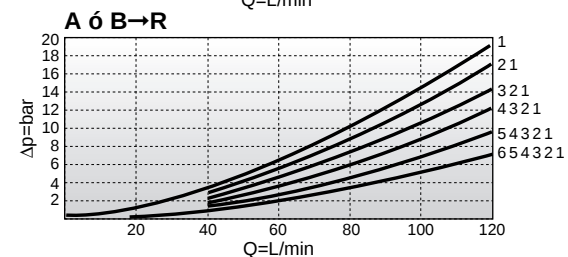


Modelo
Type 406 - 1406

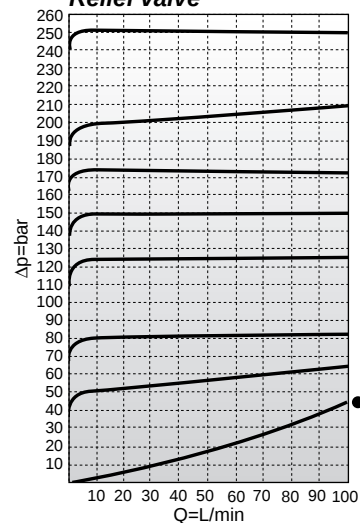
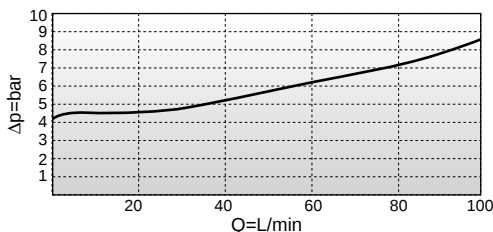
Válvula seguridad
Relief Valve



De 1 a 6
elementos
From 1 to
6 elements

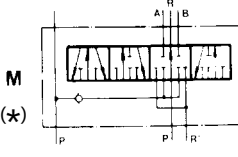
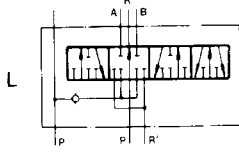
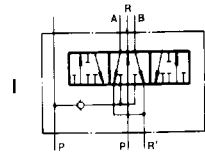
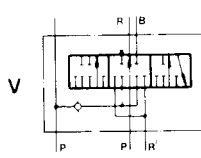
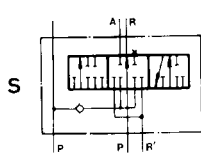
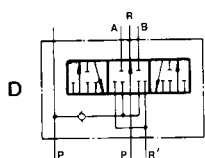


Puesta en vacío eléctrico
Unloading valve



Sistemas de distribución standard
Standard spool types

402 - 1402 - 406 - 1406



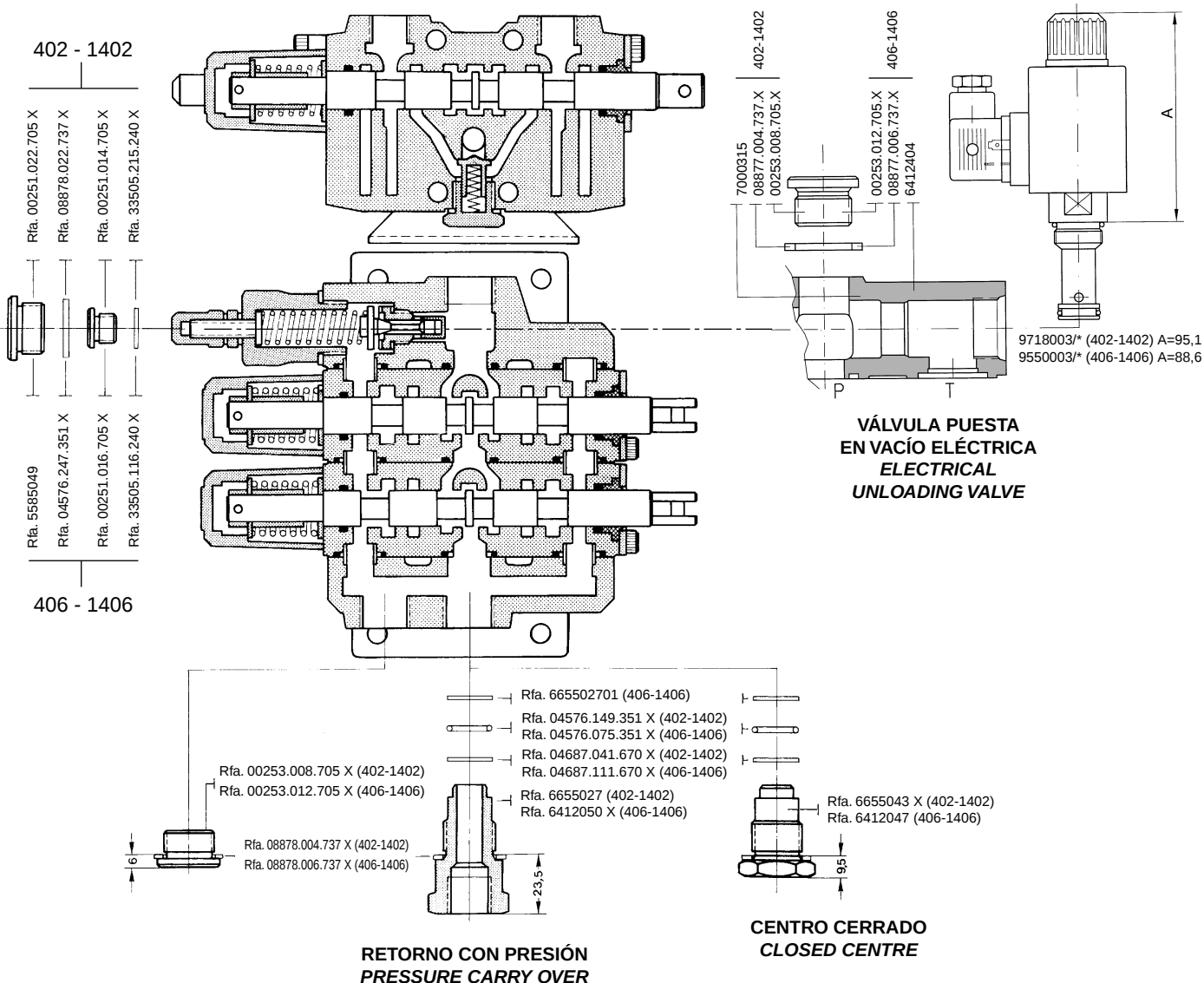
En el distribuidor 406-1406 las correderas de cuatro posiciones sólo se podrán montar en el último elemento y no es posible retorno con presión.

406 and 1406 valves can only have a 4-position spool as the final spool and HPCO is not possible.

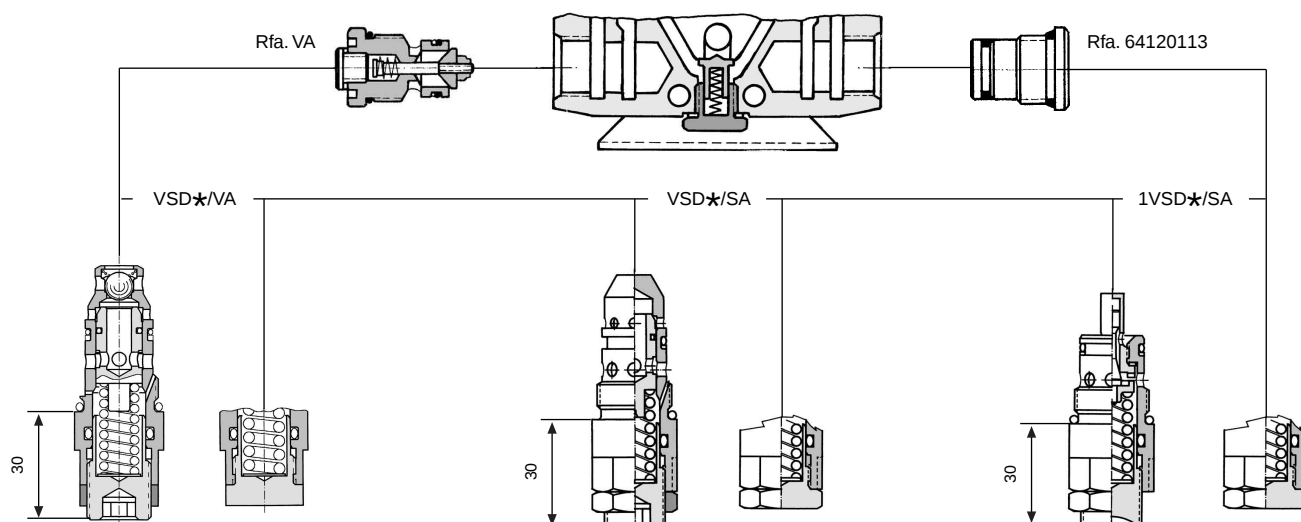
(*) Solo
Only 406-1406

Distribuidores tipo Control valves type

402 - 1402 - 406 - 1406



VÁLVULAS AUXILIARES PORT VALVES



Presiones de taraje válvulas de sobrepresión Port relief pressure settings

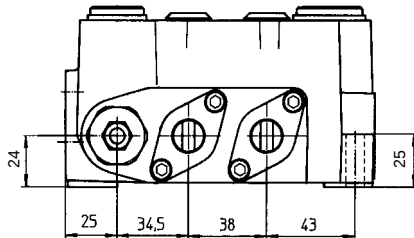
	Fija Pre-set	Adaptable Adjustable	Gama de Presiones Pressure range
*	1	11	5-80 bar
	2	12	85-175 bar
	3	13	190-250 bar
	4	14	255-350 bar

El asterisco de la referencia se sustituirá por el número que indica la presión deseada.

The asterisc will be replaced according to setting pressure required.

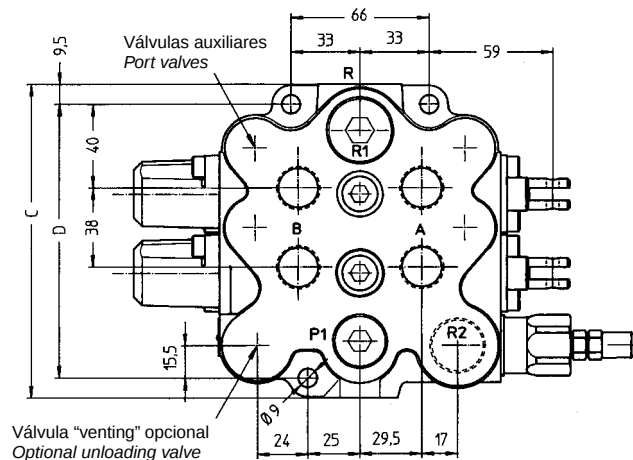
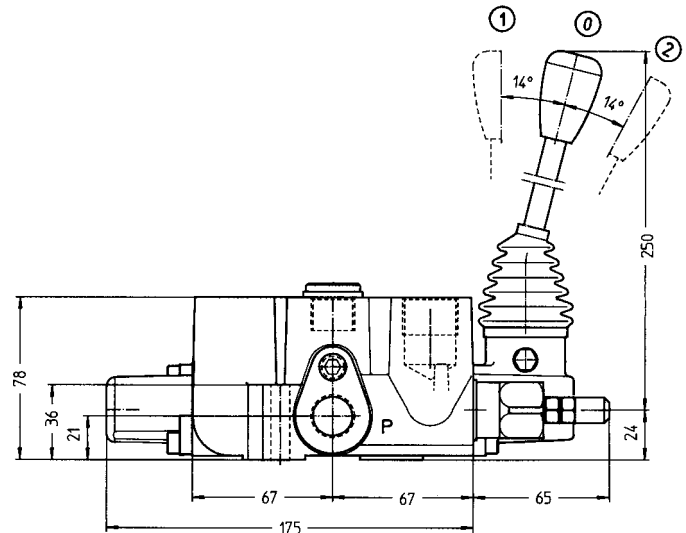
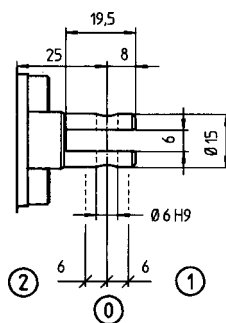
Presión > 80 bar

Caudal < 25 l/min



Detalle cabeza corredera
Spool head detail

- 0 Posición central
Neutral
- 1 Corredera salida
Spool out
- 2 Corredera entrada
Spool in



P-P₁ = Entrada a presión indistintamente
Both are pressure ports

A-B = Tomas a cilindros o motores
Outlet ports

R-R¹= Retorno a depósito en distribuidores normales
Both are exhaust ports

EN DISTRIBUIDORES CON RETORNO A PRESION
CONTROL VALVES WITH HIGH PRESURE CARRY OVER

R = Salida utilizable con presión
High pressure carry over

R¹ = Retorno a depósito
Exhaust port

EN DISTRIBUIDORES DE CENTRO CERRADO
CONTROL VALVES WITH CLOSED CENTRE

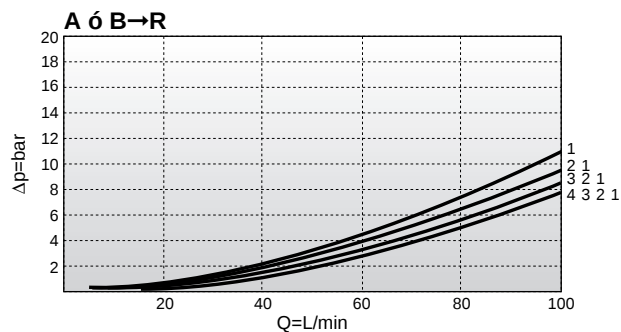
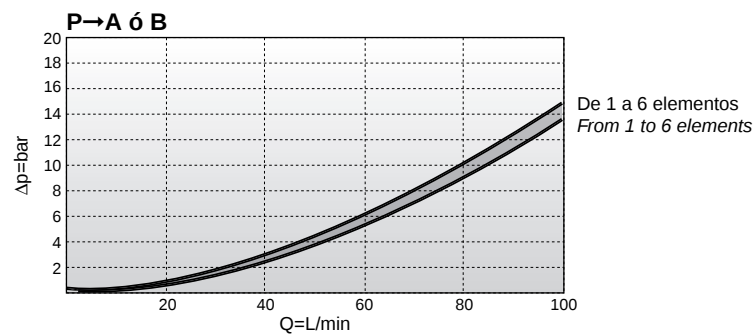
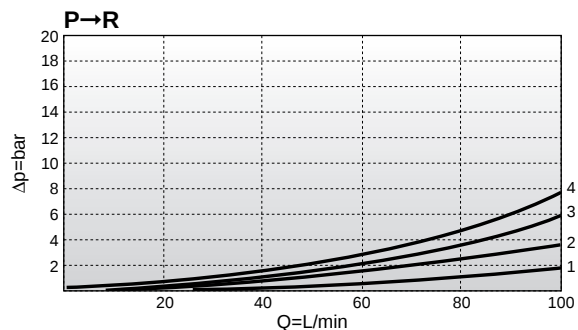
R = Estará cerrado
Closed

R¹ = Retorno a depósito
Exhaust port

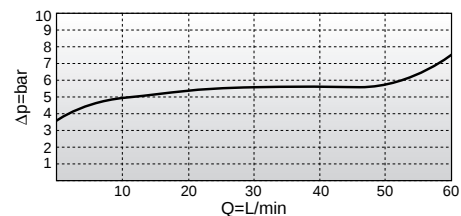
R² = Retorno opcional. Consultar

Tomas - Ports G (B.S.P.)				
P - P1	R	R1	R2	A - B
1/2"	3/4"	3/4"	3/4"	Tipo / Type 504 3/8"
				Tipo / Type 1504 1/2"

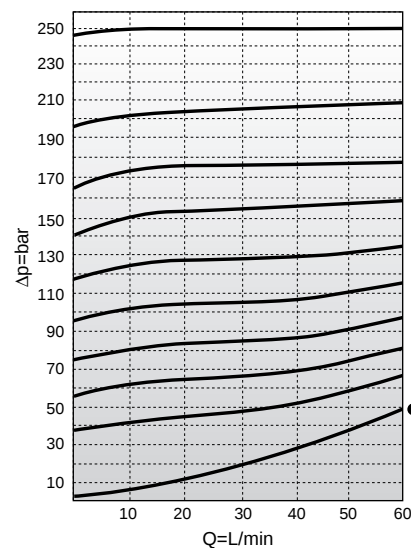
Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4
C	112	150	188	226
D	93	131	169	207
Peso en kg. Weight in kg.	5,8	8	10,4	12,8



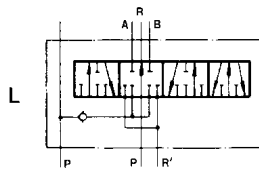
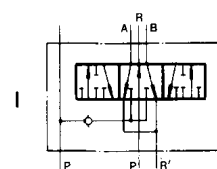
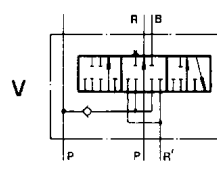
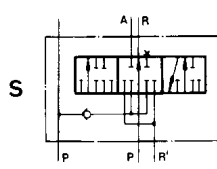
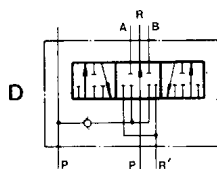
Puesta en vacío eléctrico
Unloading valve



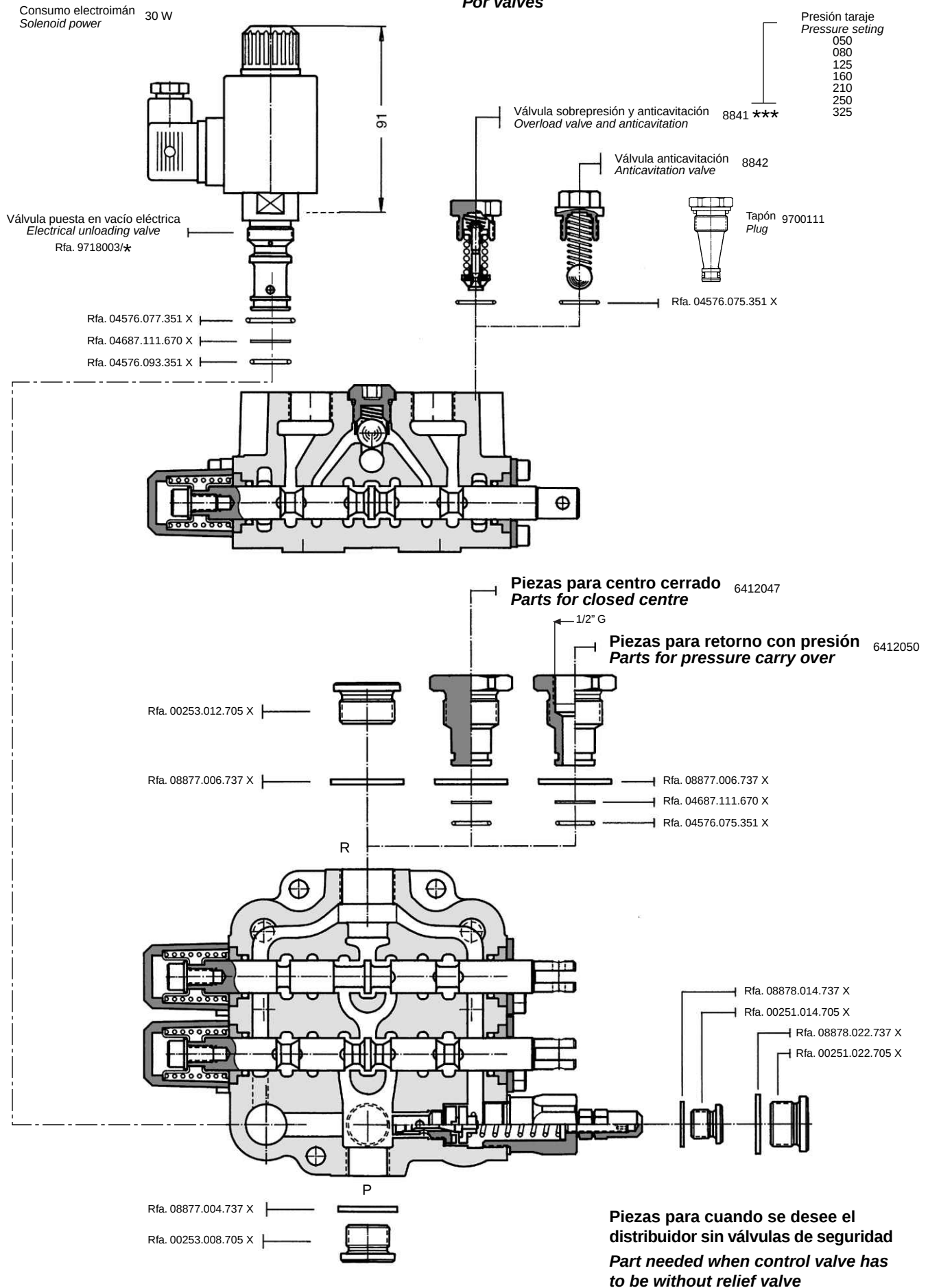
Válvula seguridad
Relief Valve

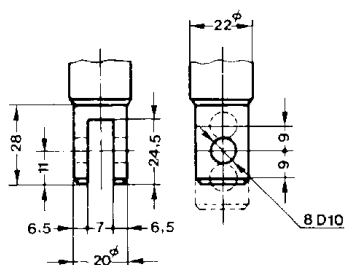
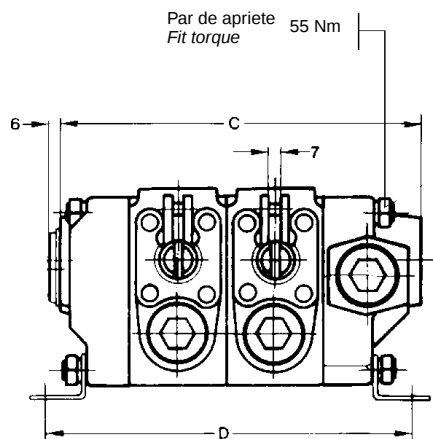


● Curva presión mínima
Minimal pressure curve

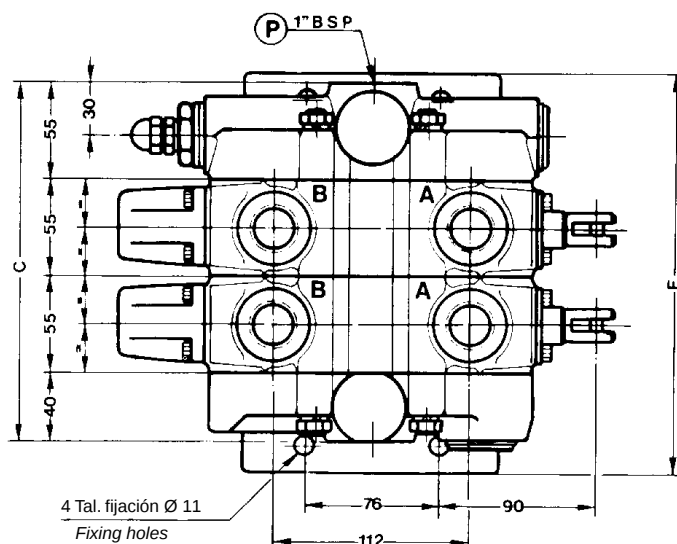
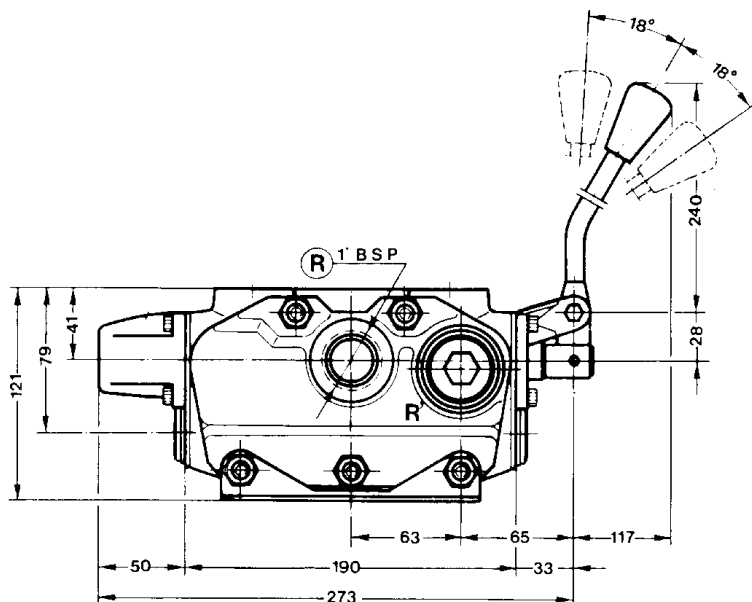


Grupo de válvulas auxiliares
Por valves





DETALLE CABEZA CORREDERA
SPOOL HEAD DETAIL

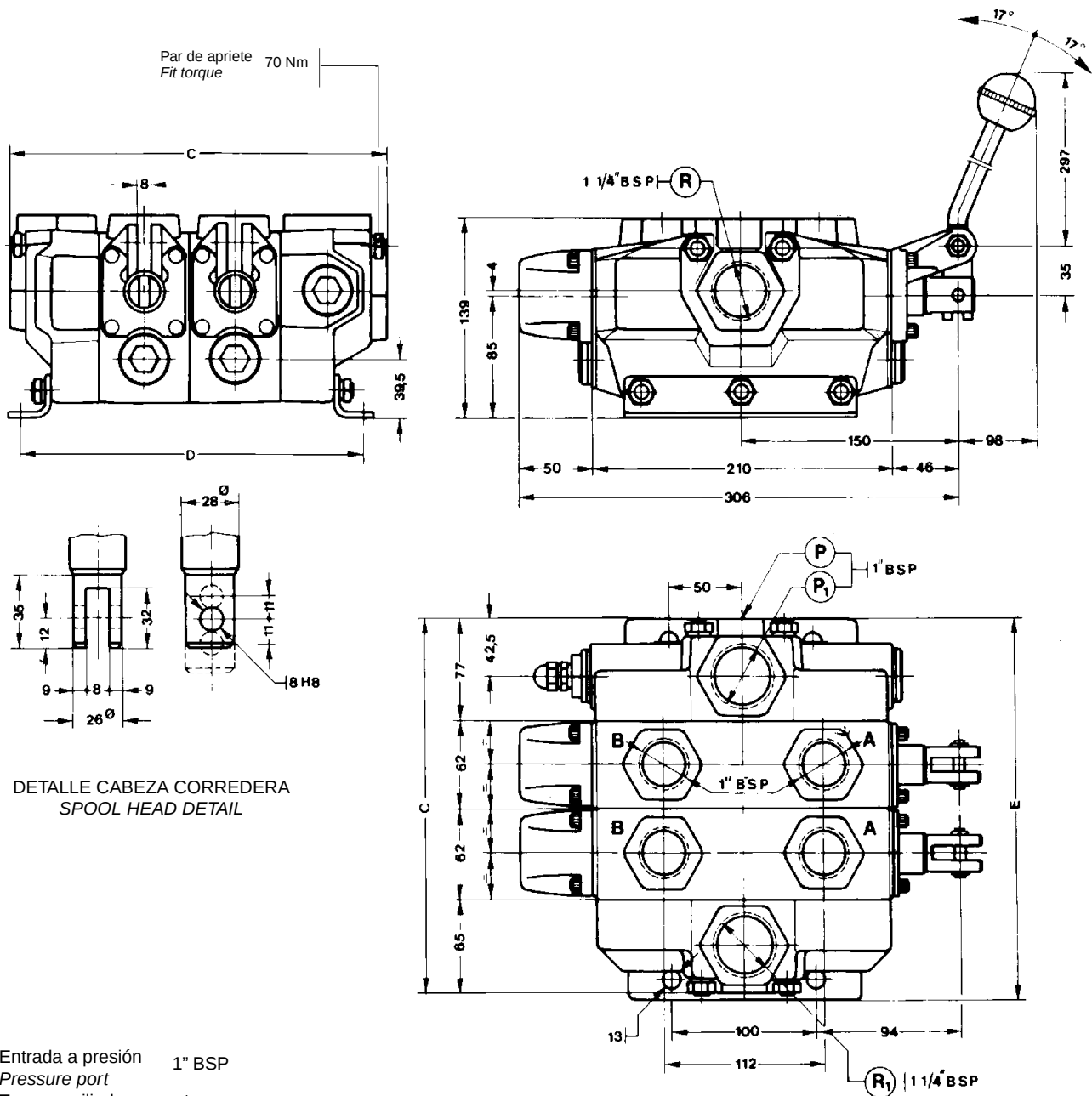


- P = Entrada a presión 1" BSP
Pressure port
- A-B = Tomas a cilindros o motores 3/4" BSP
Outlet ports
- R-R' = Retorno a depósito en distribuidores normales 1" BSP
Both are exhaust ports
- EN DISTRIBUIDORES CON RETORNO A PRESION**
CONTROL VALVES WITH HIGH PRESURE CARRY OVER
- R = Salida utilizable con presión
High pressure carry over
- R' = Retorno a depósito
Exhaust port
- EN DISTRIBUIDORES DE CENTRO CERRADO**
CONTROL VALVES WITH CLOSED CENTRE
- R = Estará cerrado
Closed
- R' = Retorno a depósito
Exhaust port

Con corredera tipo S se tapaná la toma B
With spool S the port B will be plugged

Con corredera tipo V se tapaná la toma A
With spool V the port A will be plugged

Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
C	150	205	260	315	370	425
D	142	197	252	307	362	417
E	172	227	282	337	392	447
Peso en kg. Weight in kg.	14	21	28	35	42	49



DETALLE CABEZA CORREDERA
SPOOL HEAD DETAIL

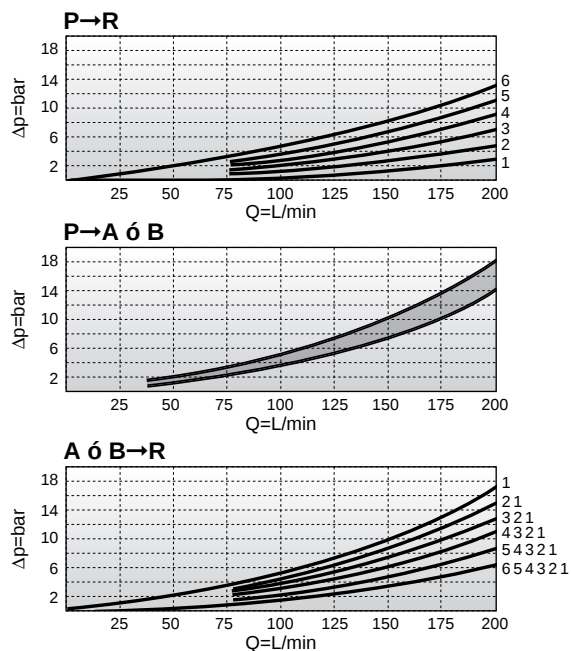
- P = Entrada a presión 1" BSP
Pressure port
- A-B = Tomas a cilindros o motores 3/4" BSP
Outlet ports
- R-R' = Retorno a depósito en distribuidores normales 1" BSP
Both are exhaust ports
- EN DISTRIBUIDORES CON RETORNO A PRESION**
CONTROL VALVES WITH HIGH PRESURE CARRY OVER
- R = Salida utilizable con presión
High pressure carry over
- R' = Retorno a depósito
Exhaust port
- EN DISTRIBUIDORES DE CENTRO CERRADO**
CONTROL VALVES WITH CLOSED CENTRE
- R = Estará cerrado
Closed
- R' = Retorno a depósito
Exhaust port

Con corredera tipo S se tapaná la toma B
With spool S the port B will be plugged

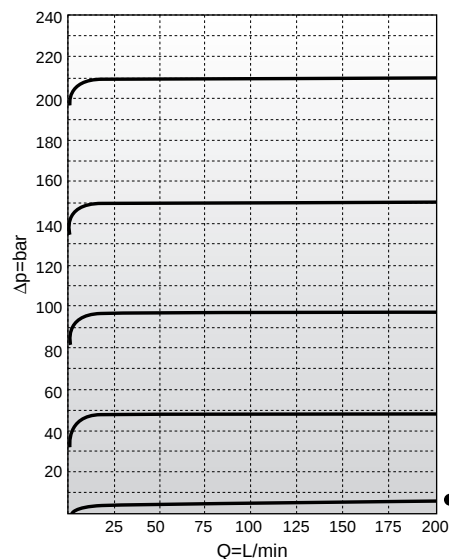
Con corredera tipo V se tapaná la toma A
With spool V the port A will be plugged

Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
C	204	266	328	390	452	514
D	175,5	237,5	299,5	361,5	423,5	485,5
E	206	268	330	392	454	516
Peso en kg. Weight in kg.	18	27	36	45	54	63

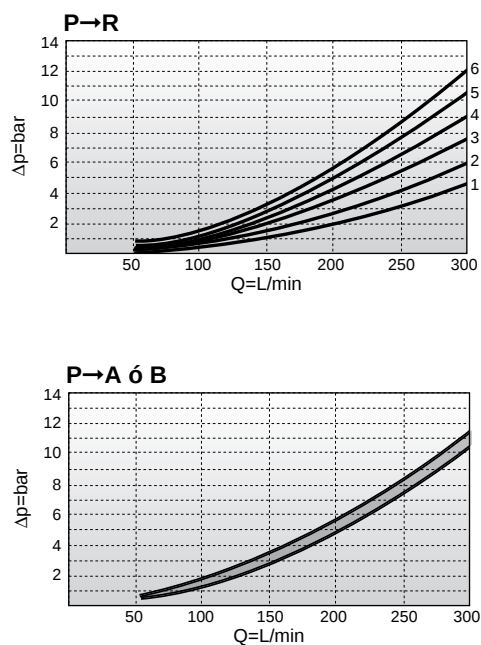
Modelo / Type
407



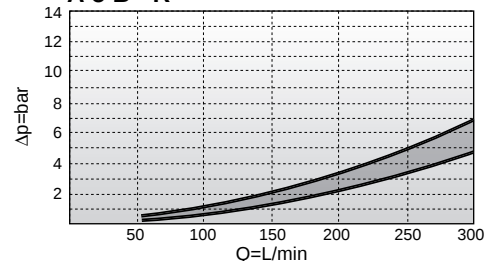
Válvula seguridad
Relief Valve



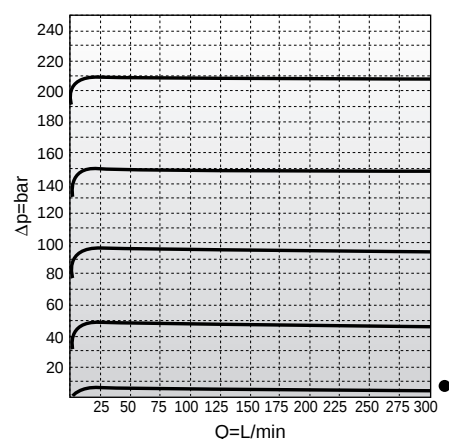
Modelo / Type
1408



A ó B→R



Válvula seguridad
Relief Valve

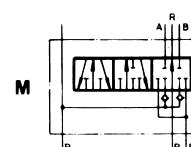
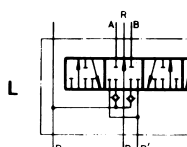
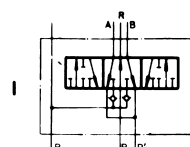
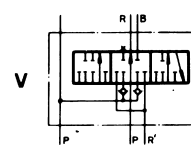
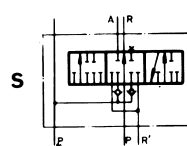
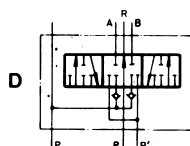


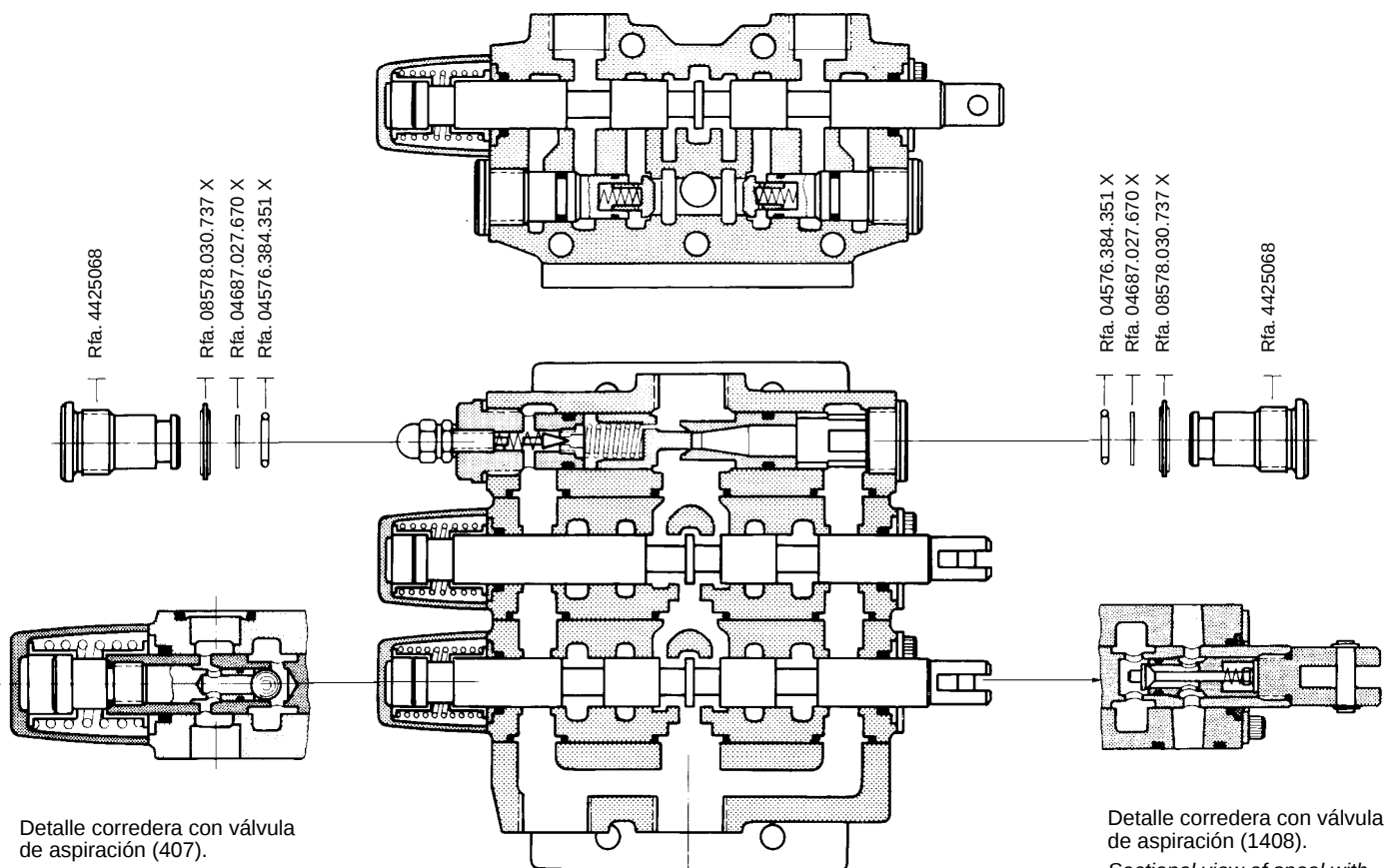
● Curva presión mínima
Minimal pressure curve

Sistemas de distribución standard
Standard spool types

Las correderas de cuatro posiciones sólo se podrán montar en el último elemento.

4 Position Spools may only be assembled on last bank.





Detalle corredera con válvula de aspiración (407).

Sectional view of spool with suction valve built in (407).

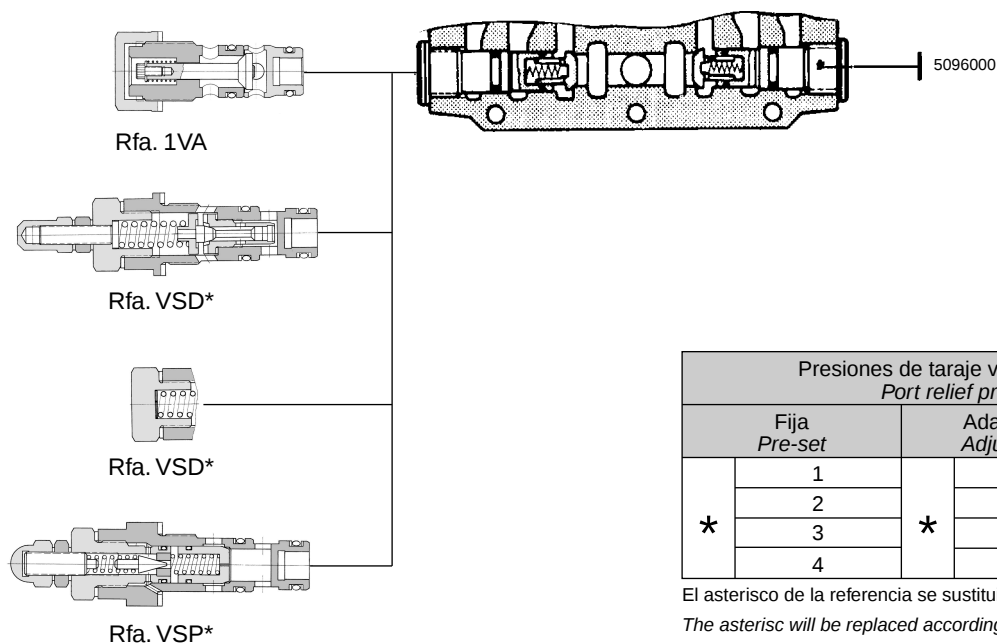
Detalle corredera con válvula de aspiración (1408).

Sectional view of spool with suction valve built in (1408).

CENTRO CERRADO
CLOSED CENTRE

RETORNO CON PRESION
PRESSURE CARRY OVER

VALVULAS AUXILIARES
PORT VALVES

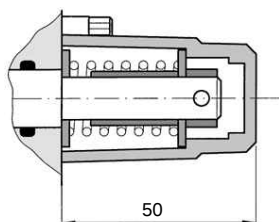


Presiones de taraje válvulas de sobrepresión Port relief pressure settings				
Fija Pre-set		Adaptable Adjustable		Gama de Presiones Pressure ranges
*	1	*	11	5-80 bar
	2		12	85-175 bar
	3		13	180-250 bar
	4		14	255-350 bar

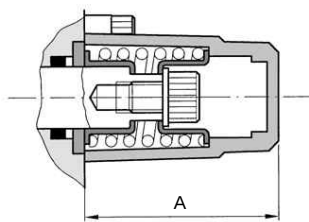
El asterisco de la referencia se sustituirá por el número que indica la presión.
The asterisc will be replaced according to setting pressure required.

Accionamientos corredera Spool positioning devices

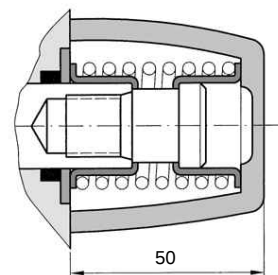
- 1** Tres posiciones recuperación por muelle.
Three positions return to neutral by spring.



102-1102-402-1402

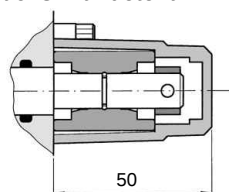


**406-1406 (A=44)
504-1504 (A=50)**

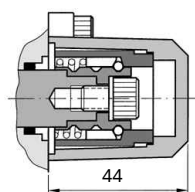


407-1408

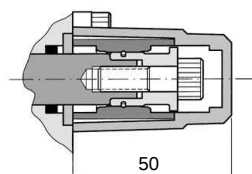
- 2** Tres posiciones con anclajes.
Three positions with detent.



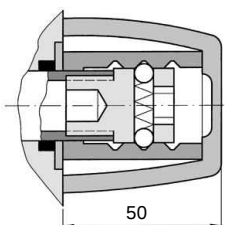
102-1102-402-1402



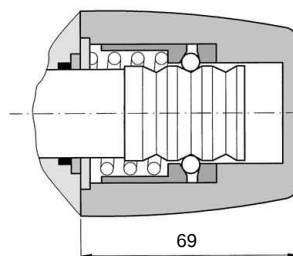
406-1406



504-1504

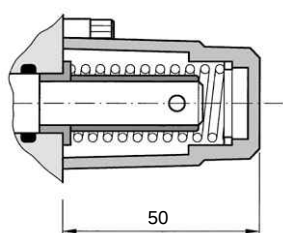


407

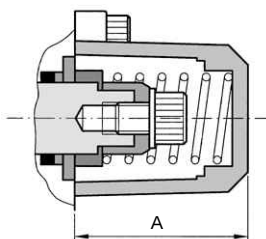


1408

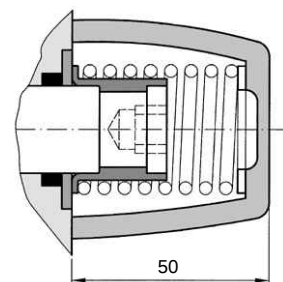
- 3** Dos posiciones extremas empujando corredera.
Two end positions action pushing spool.



102-1102-402-1402

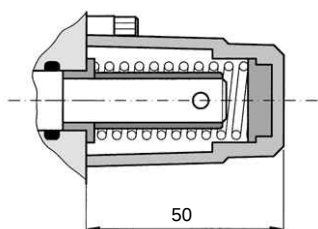


**406-1406 (A=44)
504-1504 (A=50)**

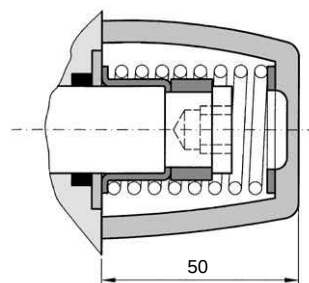


407-1408

- 4** Dos posiciones intermedia y extrema empujando corredera.
Two positions neutral and end one pushing spool.



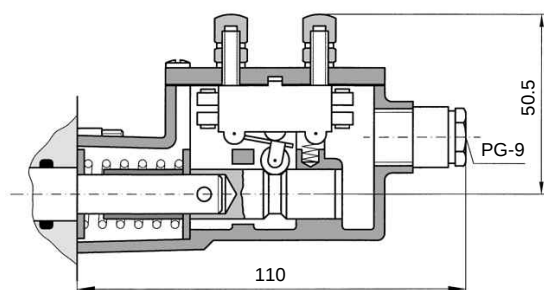
102-1102-402-1402



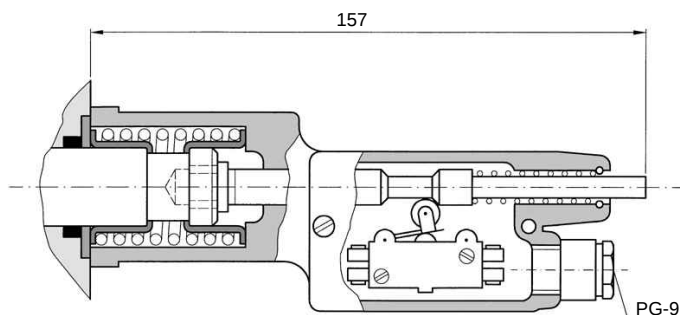
407-1408

Accionamientos corredera Spool positioning devices

5 Microrruptor. Microswitch.

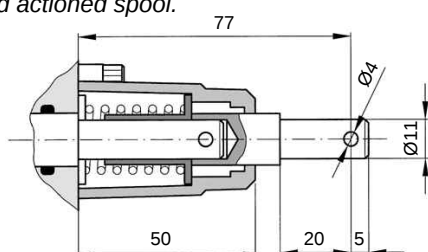


102-1102-402-1402-406-1406

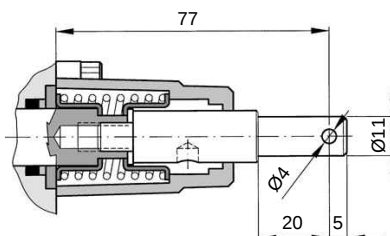


407-1408

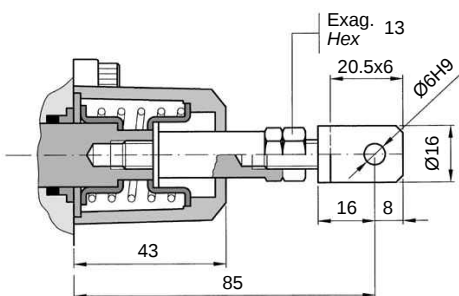
6 Doble salida corredera. Double end actioned spool.



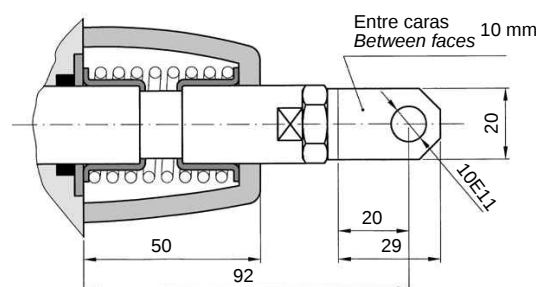
102-1102-402-1402



504-1504

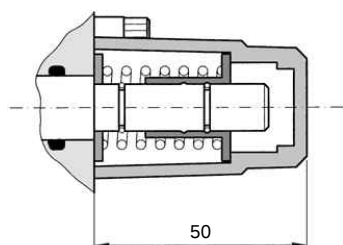


406-1406

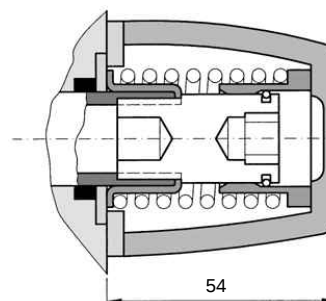


407

7 Dos posiciones con anclajes y la tercera por muelle. Two positions with detent third by spring.



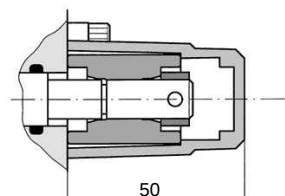
102-1102-402-1402



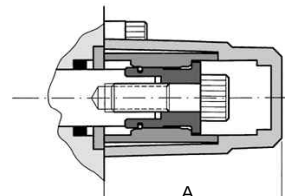
407

Accionamientos corredera Spool positioning devices

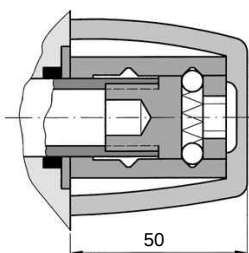
9 Dos posiciones extremas con anclajes. Two ends positions with detent.



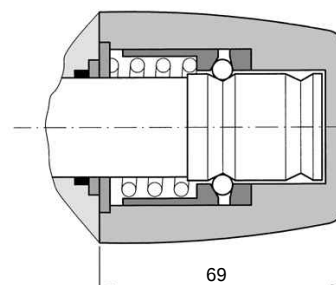
102-1102-402-1402



406-1406 (A=44) 504-1504 (A=50)

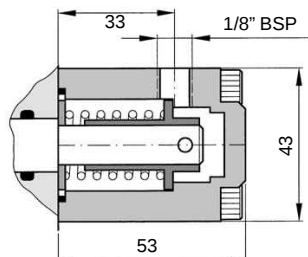


407

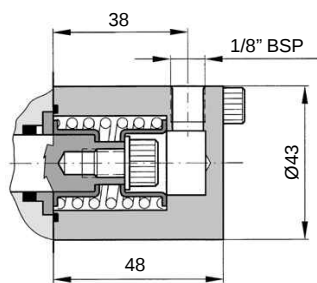


1408

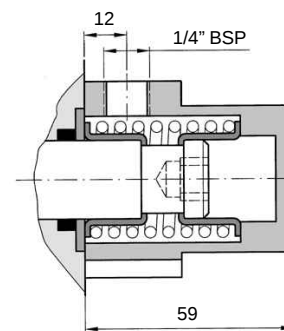
17 Tres posiciones por pilotaje hidráulico. Three positions hydraulic piloted.



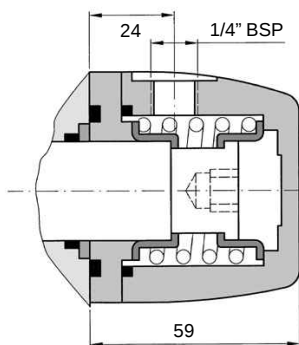
102-1102-402-1402



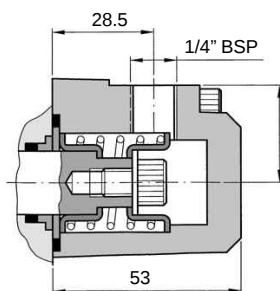
504-1504



407



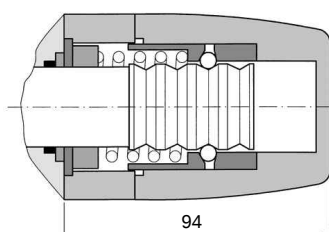
1408



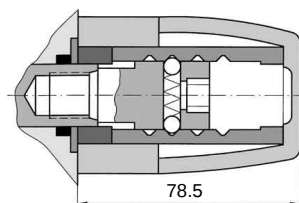
406-1406

Tipo distribuidor Control valves type	Presión de pilotaje con muelle 5-175 bar Pilot pressure required with spring 5-175 bar	
	Presión mínima Min. pressure	Presión máxima Max. pressure
102-1102 402-1402	12 bar	30 bar
406-1406 504-1504	15 bar	
407	18 bar	
1408	18 bar	

18 Cuatro posiciones ancladas tirando palanca. Four detent positions pulling the hand lever.



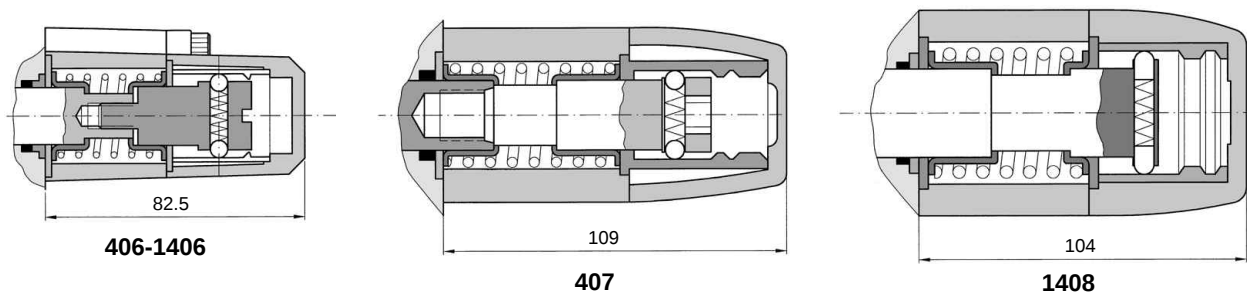
1408



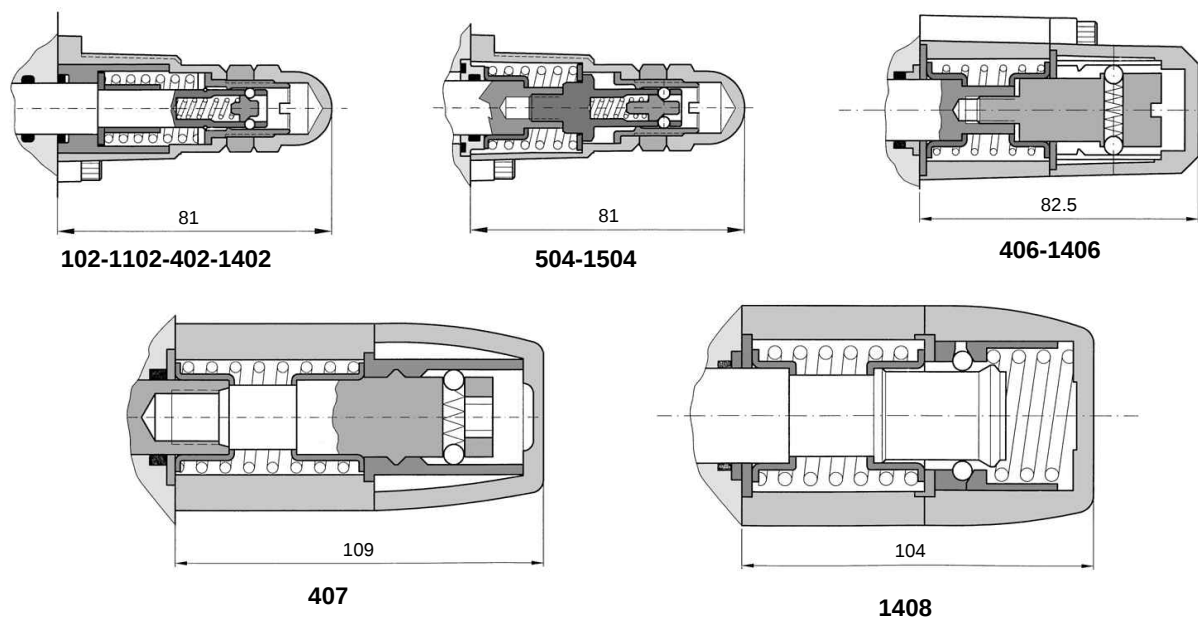
407

Accionamientos corredera Spool positioning devices

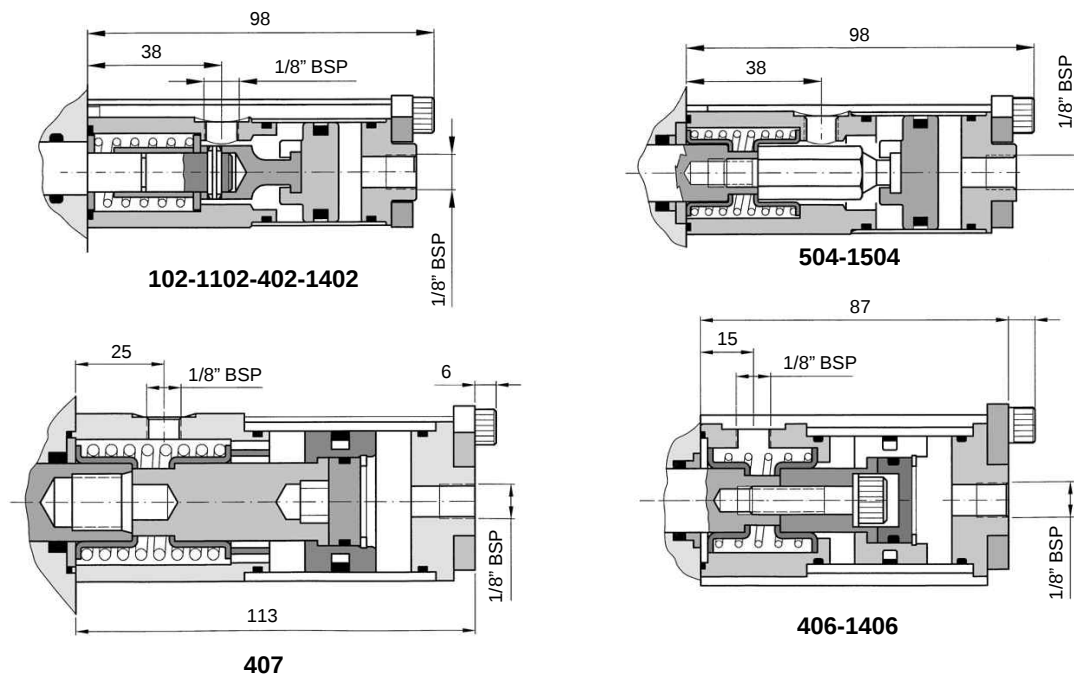
- 19** Cuatro posiciones tres normales y la cuarta anclada empujando corredera.
Four positions three return by spring the fourth detented pushing spool.



- 20** Cuatro posiciones tres normales y la cuarta anclada tirando corredera.
Four positions three return by spring the fourth detented pulling spool.

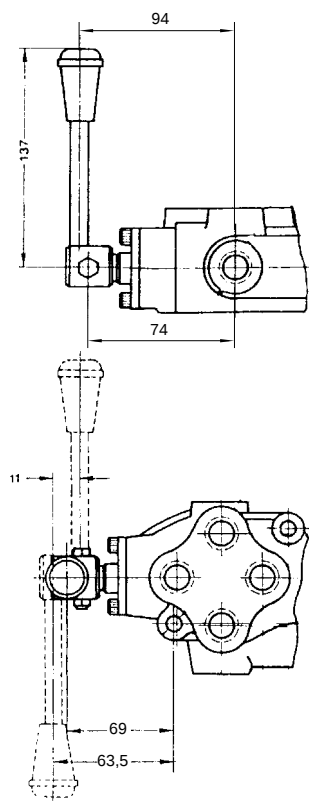


- 22** Tres posiciones por pilotaje neumático.
Three positions pneumatic pilot.

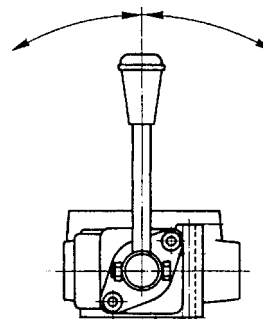


Detalle distribuidores con palanca rotativa (sólo accionamiento 35)
Detail stainless steel spool control valve (only control type 35)

102-1102

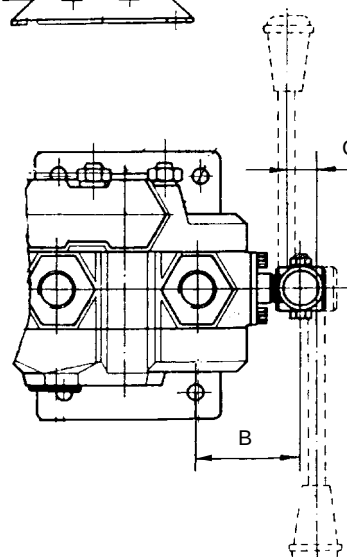
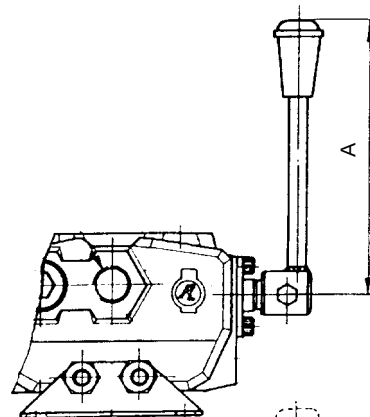
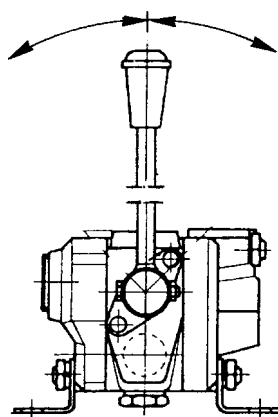


Giro de 90° en ambos lados y mantiene posición
 Lever turns and holds position



Corredera de acero inoxidable
 Stainless steel spool

Giro de 90° en ambos lados y mantiene posición
 Lever turns and holds position

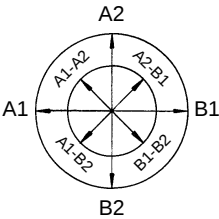
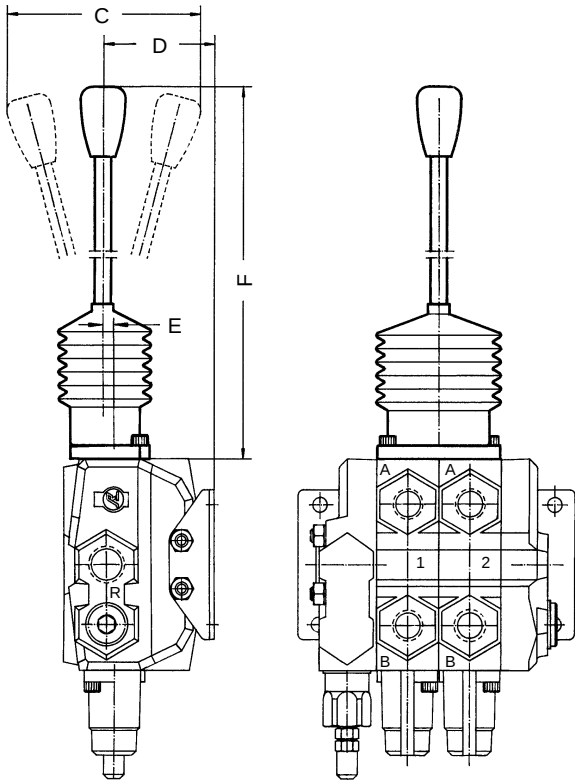


Modelo Type	A	B	C
402-1402	137	52,5	11
406-1406	137	63,5	14
407	153	98	18
1208	205	94	22

Correderas de acero inoxidable.
 Stainless steel spool.

Accionamiento por palanca múltiple Joystick control

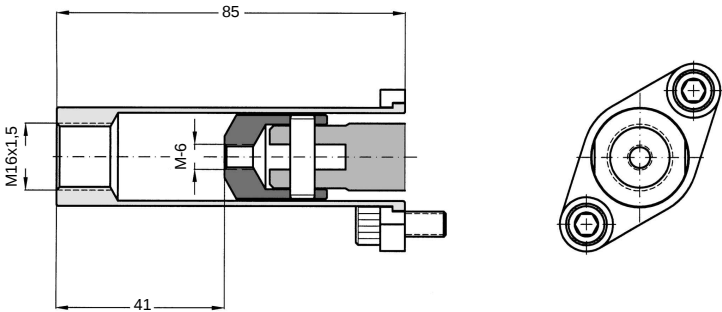
Accionamiento tipo
Control type



Tipo distribuidor Control valves type	C	D	E	F
102-1102	135	32,5	10	361
402-1402	260	67,5	6,5	390
406-1406		71	8	
504-1504				

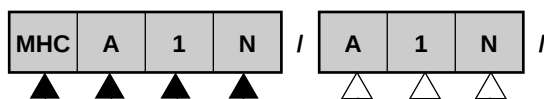
NOTA: La letra “C” indica el diámetro máximo que describen las palancas en sus diferentes posiciones de accionamiento.
“C” indicates the diameter of possible movement of the handles.

Accionamiento por cable Tipo I Cable control type I Distribuidores tipo Control valves type **402 - 1402 - 406 - 504 - 1504**



Nomenclatura de referencias para mandos neumáticos e hidráulicos

Part numbering system for pneumatic and hydraulic controllers



Función - Mando neumático <i>Function - Pneumatic controller</i>	
MNC	Mando neumático compacto - 2 conexiones para 2 ó más elementos <i>Compact pneumatic controller - 2 connections for 2 or more slices</i>
MNI	Mando neumático único - 2 conexiones (cuerpo inicial o intermedio) <i>Single pneumatic controller - 2 connections start or middle of block</i>
MNF	Mando neumático único - 2 conexiones (cuerpo final y único) <i>Single pneumatic controller - 2 connections end of block</i>
MNM	Mando neumático múltiple - 4 conexiones <i>Multiple pneumatic controller - 4 connections</i>
Función - Mando hidráulico <i>Function - Hydraulic controller</i>	
MHC	Mando hidráulico compacto - 2 conexiones para 2 ó más elementos <i>Compact hydraulic controller - 2 connections for 2 or more slices</i>
MHI	Mando hidráulico único - 2 conexiones (cuerpo inicial o intermedio) <i>Single hydraulic controller - 2 connections start or middle of block</i>
MHF	Mando hidráulico único - 2 conexiones (cuerpo final y único) <i>Single hydraulic controller - 2 connections end of block</i>
MHM	Mando hidráulico múltiple - 4 conexiones <i>Multiple hydraulic controller - 4 connections</i>

Presión de pilotaje (mando neumático) <i>Pilot pressure (pneumatic controller)</i>		Mando hidráulico <i>Hydraulic controller</i>	
A	0 - 6 bar	A	0 - 20 bar
B	0 - 10 bar	B	0 - 28 bar
		C	0 - 10 bar

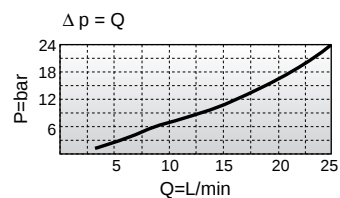
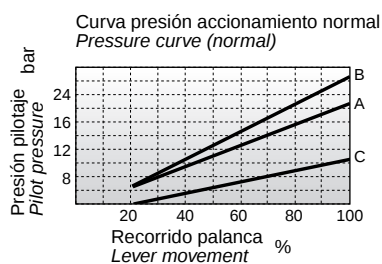
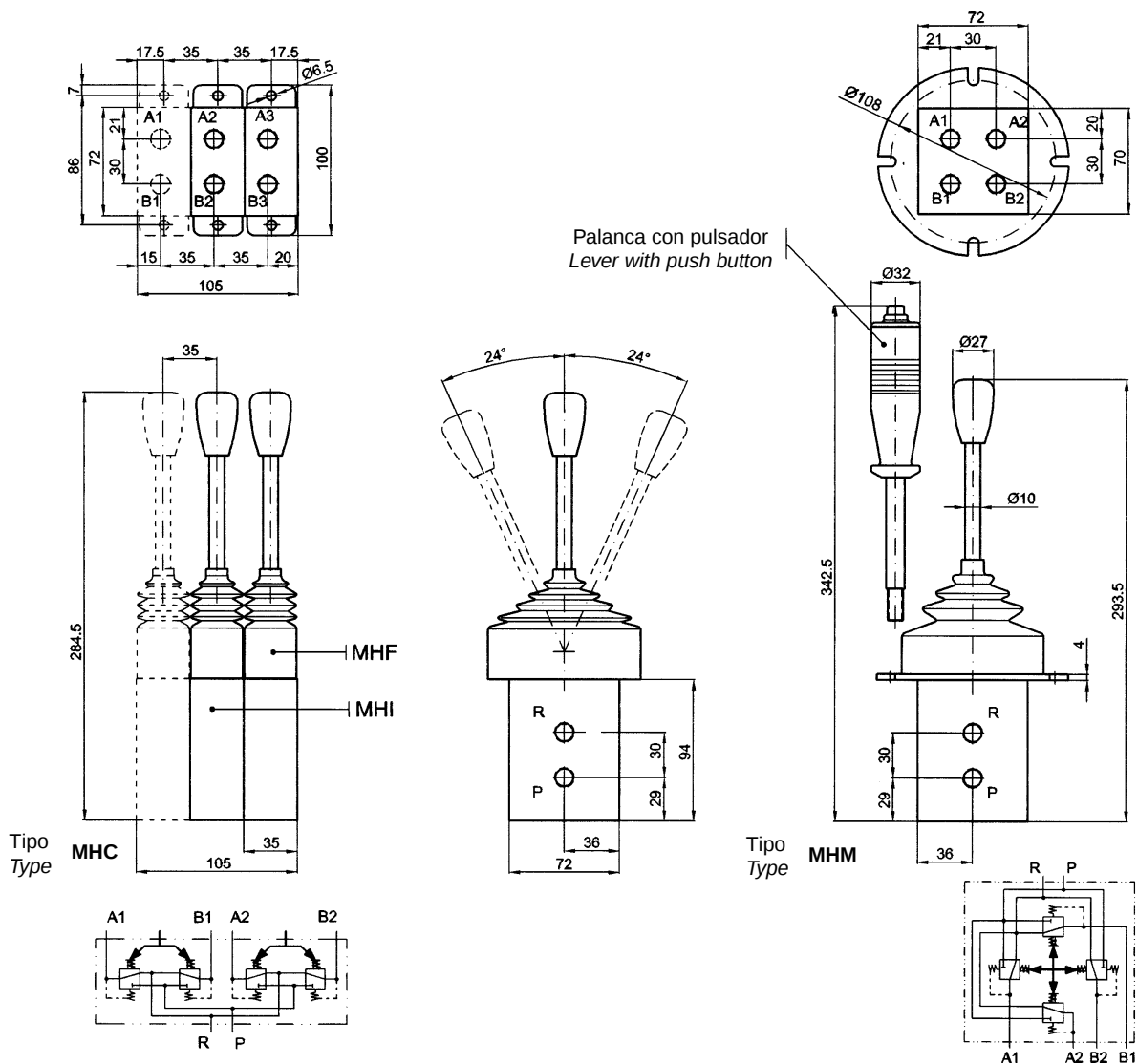
Accionamiento <i>Lever action</i>	
1	Normal con muelle <i>Spring return</i>

Tipo palanca <i>Lever type</i>	
N	Normal <i>Normal</i>
P	Con pulsador <i>With push-button</i>
I	Con interruptor <i>With switch</i>

Mando hidráulico Hydraulic controller

Datos técnicos Technical data

Presión máx. de alimentación <i>Max. working pressure</i>	50 bar	Presión y retorno <i>Pressure and return</i> P - R	1/4" BSP
Par accionamiento palanca lineal <i>Single axis lever torque</i>	2,3 Nm	Salidas <i>Outlets</i> A - B	1/4" BSP
Par accionamiento palanca múltiple <i>Dual axis lever torque</i>	2,9 Nm	Fluido recomendado <i>Fluid to be used</i>	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46
Histéresis <i>Hysteresis</i>	1 bar	Gama de temperaturas <i>Temperature range</i>	-20°C ... +80°C
Contrapresión máx. en retorno <i>Maximum return line pressure</i>	3 bar	Viscosidades <i>Viscosity range</i>	4 - 500 cSt.
Caudal máximo de pilotaje <i>Maximum pilot flow</i>	22 l/min	Grado de limpieza del aceite <i>Recommended fluid cleanliness</i>	19/16 s/. ISO 4406 RP 70 H

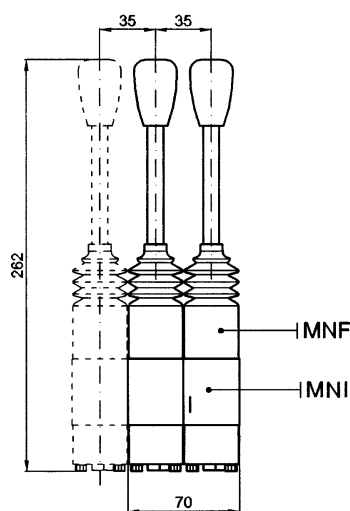
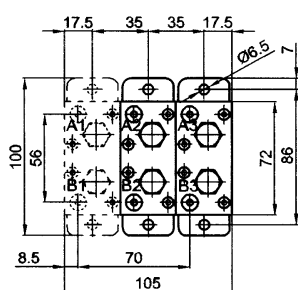


En los distribuidores donde se precise de un mando hidráulico para su manipulación la corredera deberá ser sensibilizada y el accionamiento el tipo 17.
Valves requiring hydraulic control should have progressive spools and positioning device Type 17.

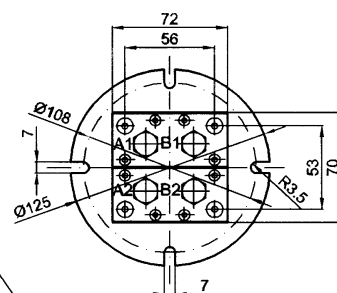
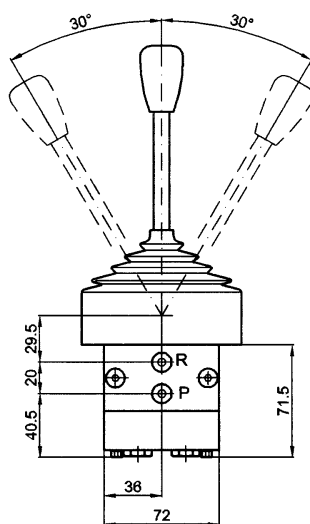
Mando neumático Pneumatic controller

Datos técnicos Technical data

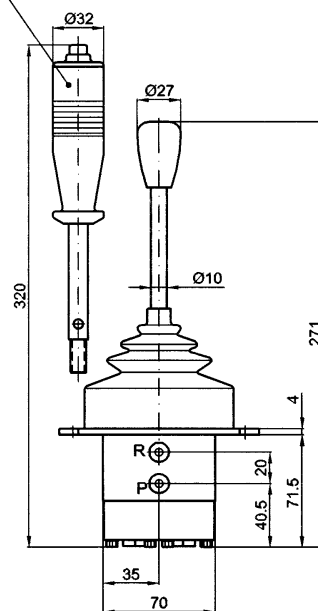
Presión máx. de alimentación Max. working pressure	10 bar	Salidas Outlets A - B	Cartucho Insert Legris LE3000 Ø 6
Par accionamiento palanca lineal Single axis lever torque	2,3 Nm	Fluido recomendado Fluid to be used	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46
Par accionamiento palanca múltiple Dual axis lever torque	2,9 Nm	Gama de temperaturas Temperature range	-20°C ... +80°C
Histéresis Hysteresis	1 bar	Viscosidades Viscosity range	4 - 500 cSt.
Presión y retorno P - R Pressure and return	Cartucho Insert Legris LE3000 Ø 8	Grado de limpieza del aceite Recommended fluid cleanliness	19/16 s/. ISO 4406 RP 70 H



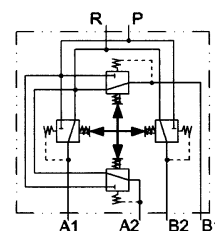
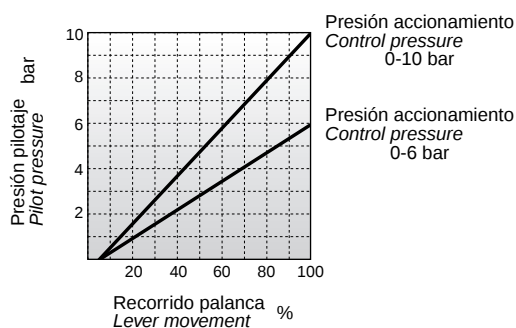
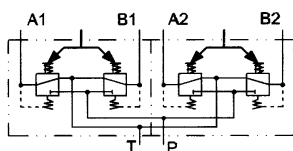
Tipo
Type MNC



Palanca con pulsador
Lever with push button



Tipo
Type MNM



En los distribuidores donde se precise de un mando neumático para su manipulación la corredera deberá ser sensibilizada y el accionamiento el tipo 47.
Valves requiring pneumatic control should have progressive spools and positioning device Type 47.

Regulador de caudal 3 vías para distribuidores.
3 way flow control valves for directional control valves.

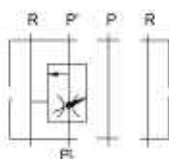
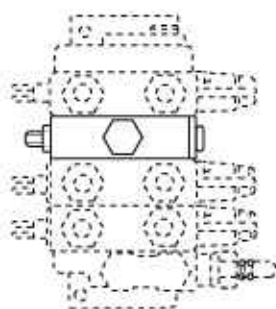
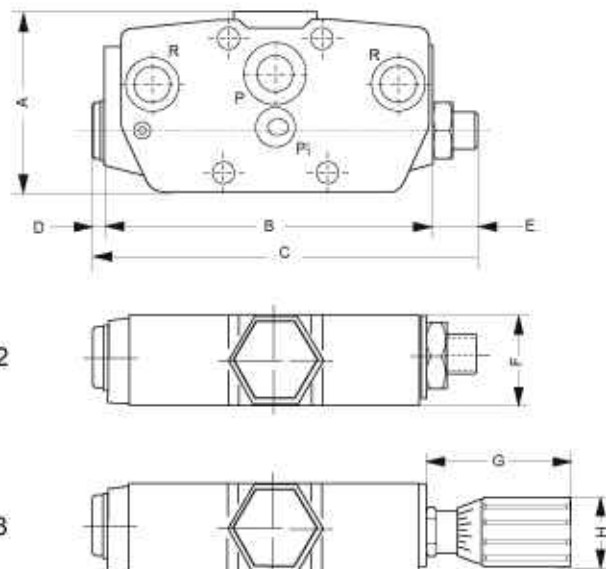
402 - 1402 - 406 - 1406 - 407

Este regulador de caudal de 3 vías puede intercalarse en medio de cualquier elemento del distribuidor independientemente del número de elementos.

El sentido de regulación será en la alimentación por paralelo, quedando los elementos que siguen a continuación regulados al caudal prefijado y el aceite sobrante irá al retorno a la presión de trabajo.

This flow control section can be fitted at any position in a valve assembly, according to which sections are required with a reduced flow rate.

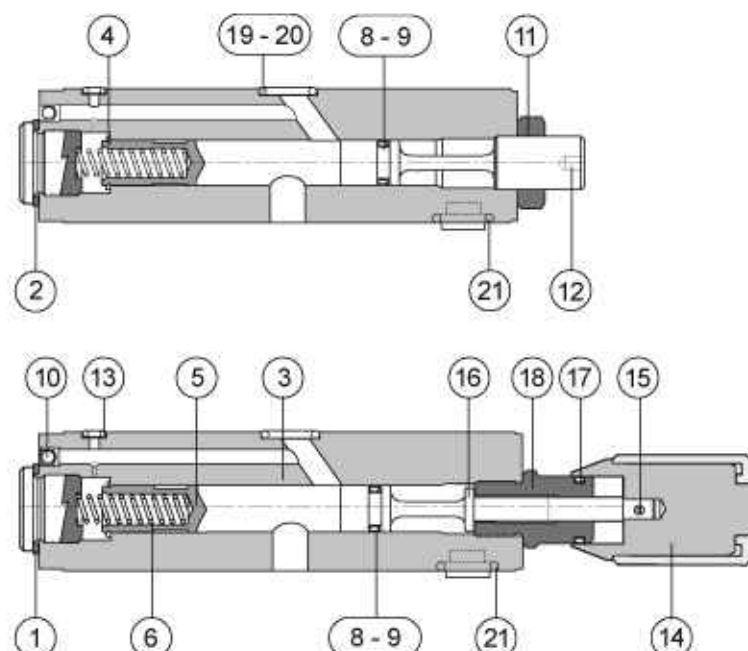
All sections downstream of this valve can only operate at this reduced flow rate.



Tipo distribuidor Directional control valves type		Presión máx. de trabajo Working max. pressure	Caudal nominal Nominal flow rate	A	B	C	D	E	F	G	H	Peso Weight Kg.
Rfa M779200*	402-1402	300 bar	50 l/min.	82	137	166	6	23	38	74,5	33	2,5
Rfa M779200*	402-1402		50 l/min.	82	137	166			38	74,5	33	2,5
Rfa M679600*	406-1406		80 l/min.	87	158	187			45	74,5	33	3,5
Rfa M679600*	406-1406		80 l/min.	87	158	187			45	74,5	33	3,5
Rfa M892800*	407		120 l/min.	116	190	221		25	55	74,5	33	6
Rfa M892800*	407		120 l/min.	116	190	221		25	55	74,5	33	6

Ejemplo para pedidos de recambios
Example to order spare parts

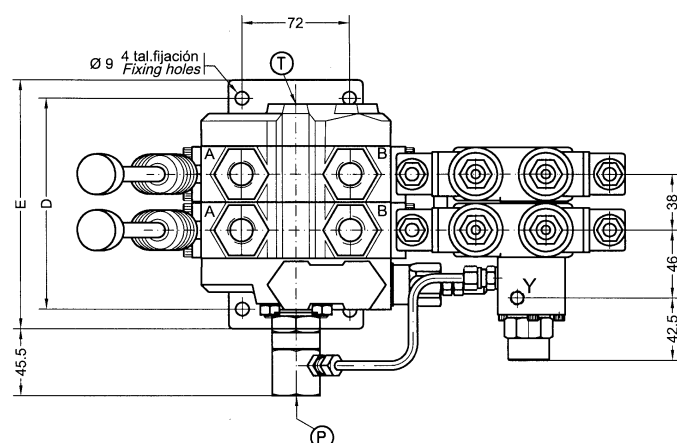
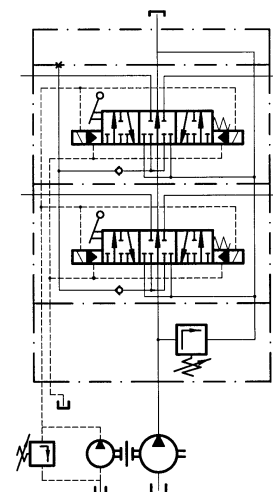
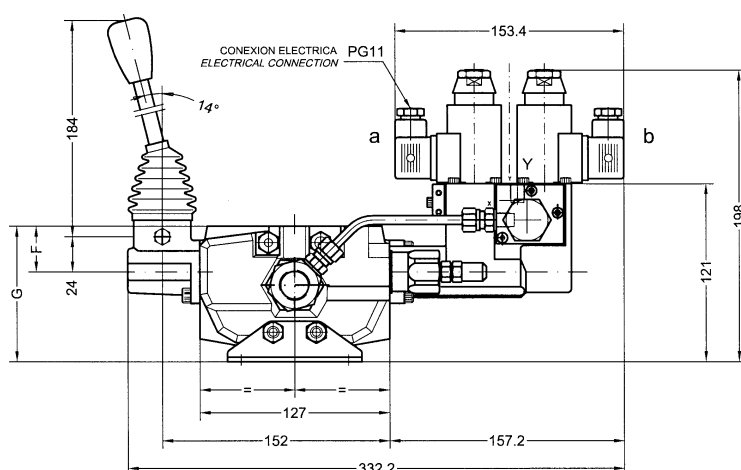
Cantidad Quantity	Denominación Description	Nº de la pieza Part number	Referencia según la placa Ref. according serial number plate
1	Centrador cuerpos Guide ring	3	M6796003



NUM.	Denominación Description	Cant. Quant.
1	Tapón final / Plug	1
2	Junta metal-buna / Metal bonded gasket	1
3	Cuerpo regulador / Valve housing	1
4	Anillo elástico / Circlip	1
5	Corredera / Spool	1
6	Muelle / Spring	1
7	Junta tórica / O'ring	1
8	Junta tórica / O'ring	1
9	Junta anti-extrusión / Anti-extrusion gasket	1
10	Tapón obturador / Plug	1
11	Tuerca DIN 936 / Nut DIN 936	1
12	Tornillo tensor / Screw	1
13	Junta tórica / O'ring	1
14	Conjunto puño / Knob assy.	1
15	Pasador elástico DIN1481 / Elastic pin	1
16	Tornillo tensor / Screw	1
17	Junta tórica / O'ring	2
18	Adaptador volante / Knob adaptor	1
19	Junta tórica / O'ring (P)	1
20	Junta tórica / O'ring (P _r)	1
21	Junta tórica / O'ring (R)	2

Datos técnicos
Technical data

Hidráulicos Hydraulic		Eléctricos Electrical	
Presión máx. de trabajo <i>Max. working pressure</i>	350 bar	Corriente de alimentación <i>D.C. supply</i>	C.C.
Caudal nominal <i>Nominal flow rate</i>	50 l/min.	Conexión de alimentación <i>Connection method</i>	DIN 43650
Presión máx. en drenaje <i>Max. pressure in drain line</i>	1 bar	Protección según <i>Protection to</i>	IP-54
Presión válvula precarga con corredera simple efecto <i>Pre-load valve pressure for single acting spool</i>	22 bar	Protección del enchufe <i>Connector protection</i>	IP-65
Fluido recomendado <i>Fluid to be used</i>	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46	Gama de tensiones para C.C. <i>D.C. voltage range</i>	12 V - 24 V
Gama de temperaturas <i>Temperature range</i>	-20°C ... +80°C	Potencia nominal <i>Nominal power</i>	13,6 W
Viscosidades <i>Viscosity range</i>	4 - 500 cSt.	Intensidad nominal <i>Nominal current</i>	12 v → 2100 mA / 24 V → 1200 mA
Grado de limpieza del aceite <i>Recommended fluid cleanliness</i>	19/16 s/. ISO 4406 RP 70 H	Factor de marcha <i>Operating factor</i>	100 %



- P Entrada a presión
Pressure port
- A y B Tomas a cilindros o motores
Outlet ports
- T Retorno a depósito
Tank port
- Y Drenaje a depósito
Pilot external drain

Tipo distribuidor <i>D. control valve type</i>	F	G	A - B	P	T	Y
402	31	92	3/8" BSP	1/2" BSP	1/2" BSP	1/8" BSP
1402	33	94	1/2" BSP	1/2" BSP	1/2" BSP	1/8" BSP

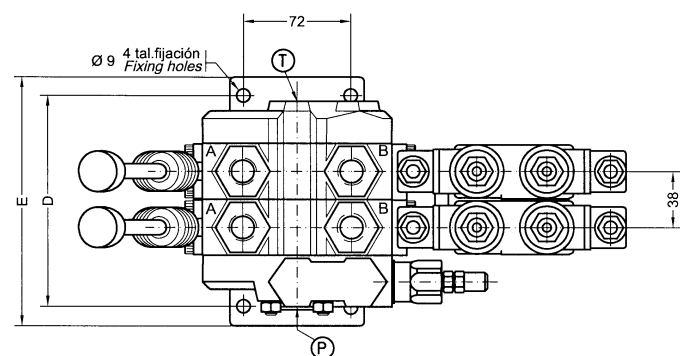
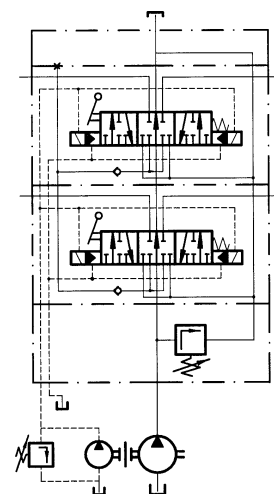
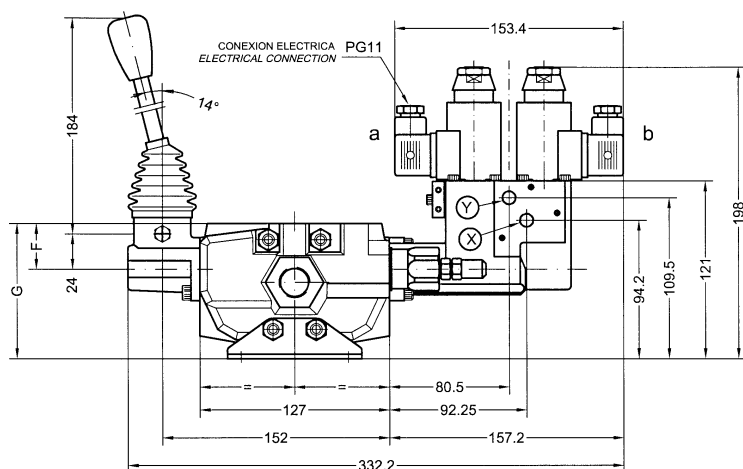
Nº DE ELEMENTOS <i>SPOOL QUANTITY</i>	1	2	3	4	5	6
D	106	144	182	220	258	296
E	131	169	207	245	283	321
Peso en kg. <i>Weight in kg.</i>						

Distribuidor electro-hidráulico todo-nada (Alimentación externa)
On-Off directional control valve (Hydr. ext. piloted-solenoid operated)

402*82/1402*82

Datos técnicos
Technical data

Hidráulicos Hydraulic		Eléctricos Electrical	
Presión máx. de trabajo <i>Max. working pressure</i>	350 bar	Corriente de alimentación <i>D.C. supply</i>	C.C.
Caudal nominal <i>Nominal flow rate</i>	50 l/min.	Conexión de alimentación <i>Connection method</i>	DIN 43650
Presión máx. en drenaje <i>Max. pressure in drain line</i>	1 bar	Protección según <i>Protection to</i>	IP-54
Presión máx. en pilotaje <i>Max. pressure in pilot line</i>	30 bar	Protección del enchufe <i>Connector protection</i>	IP-65
Mínima presión en pilotaje <i>Min pressure in pilot line</i>	25 bar	Gama de tensiones para C.C. <i>D.C. voltage range</i>	12 V - 24 V
Fluido recomendado <i>Fluid to be used</i>	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46	Potencia nominal <i>Nominal power</i>	13,6 W
Gama de temperaturas <i>Temperature range</i>	-20°C ... +80°C	Intensidad nominal <i>Nominal current</i>	12 v → 2100 mA / 24 V → 1200 mA
Viscosidades <i>Viscosity range</i>	4 - 500 cSt.	Factor de marcha <i>Operating factor</i>	100 %
Grado de limpieza del aceite <i>Recommended fluid cleanliness</i>	19/16 s/. ISO 4406 RP 70 H		



- P Entrada a presión
Pressure port
- A y B Tomas a cilindros o motores
Outlet ports
- T Retorno a depósito
Tank port
- X Entrada pilotaje
Pilot line
- Y Drenaje a depósito
Pilot external drain

Tipo distribuidor <i>D. control valve type</i>	F	G	A - B	P	T	X	Y
402	31	92	3/8" BSP	1/2" BSP	1/2" BSP	1/8" BSP	1/8" BSP
1402	33	94	1/2" BSP				

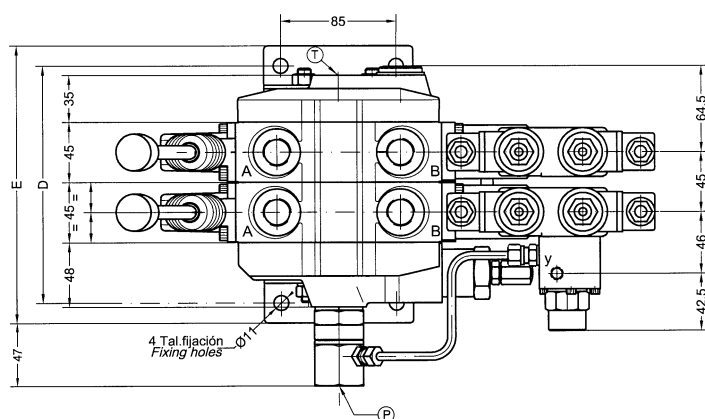
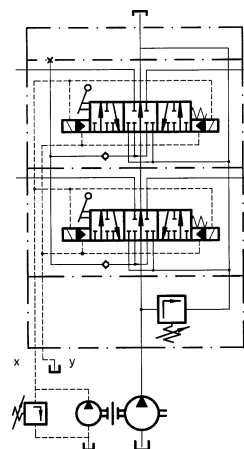
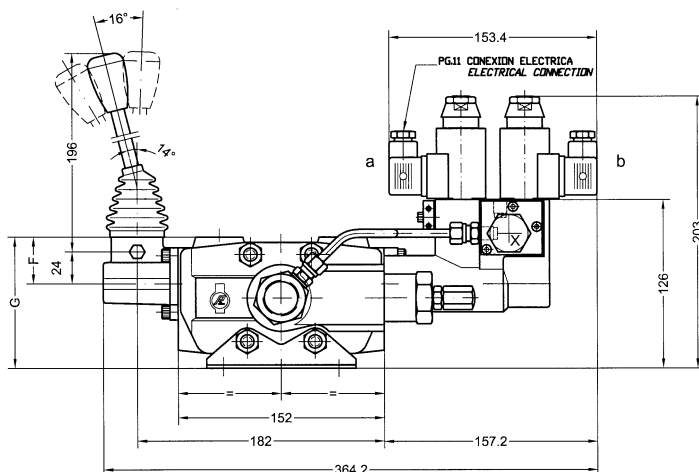
Nº DE ELEMENTOS <i>SPOOL QUANTITY</i>	1	2	3	4	5	6
D	106	144	182	220	258	296
E	131	169	207	245	283	321
Peso en kg. <i>Weight in kg.</i>						

Distribuidor electro-hidráulico todo-nada (Alimentación interna)
On-Off directional control valve (Hydr. int. piloted-solenoid operated)

406*81/1406*81

Datos técnicos
Technical data

Hidráulicos Hydraulic		Eléctricos Electrical	
Presión máx. de trabajo Max. working pressure	350 bar	Corriente de alimentación D.C. supply	C.C.
Caudal nominal Nominal flow rate	80 l/min.	Conexión de alimentación Connection method	DIN 43650
Presión máx. en drenaje Max. pressure in drain line	1 bar	Protección según Protection to	IP-54
Presión válvula precarga con corredera simple efecto Pre-load valve pressure for single acting spool	22 bar	Protección del enchufe Connector protection	IP-65
Fluido recomendado Fluid to be used	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46	Gama de tensiones para C.C. D.C. voltage range	12 V - 24 V
Gama de temperaturas Temperature range	-20°C ... +80°C	Potencia nominal Nominal power	13,6 W
Viscosidades Viscosity range	4 - 500 cSt.	Intensidad nominal Nominal current	12 v → 2100 mA / 24 V → 1200 mA
Grado de limpieza del aceite Recommended fluid cleanliness	19/16 s/. ISO 4406 RP 70 H	Factor de marcha Operating factor	100 %



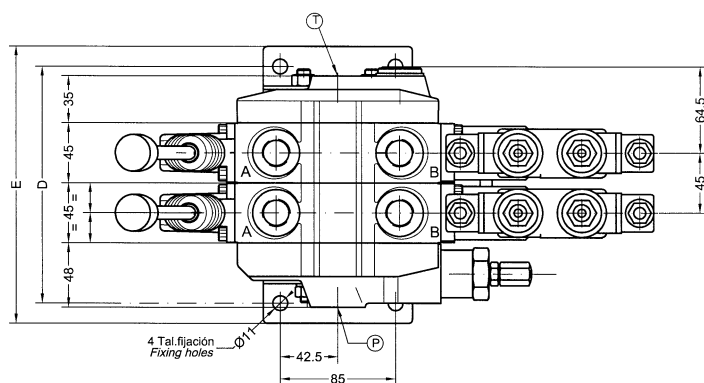
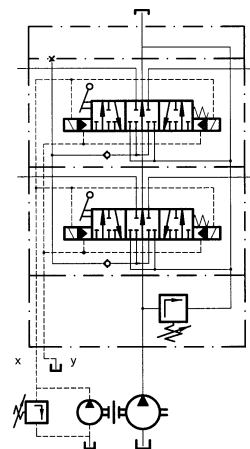
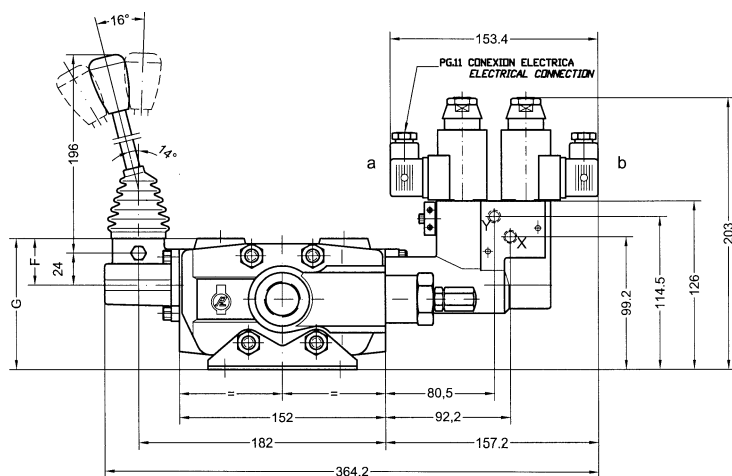
- P Entrada a presión
Pressure port
- A y B Tomas a cilindros o motores
Outlet ports
- T Retorno a depósito
Tank port
- Y Drenaje a depósito
Pilot external drain

Tipo distribuidor D. control valve type	F	G	A - B	P	T	Y
406	35	98	1/2" BSP	3/4" BSP	3/4" BSP	1/8" BSP
1406	39	102	3/4" BSP			

Nº DE ELEMENTOS SPOOL QUANTITY	1	2	3	4	5	6
D	106	144	182	220	258	296
E	131	169	207	245	283	321
Peso en kg. Weight in kg.						

Datos técnicos
Technical data

Hidráulicos Hydraulic		Eléctricos Electrical	
Presión máx. de trabajo <i>Max. working pressure</i>	350 bar	Corriente de alimentación <i>D.C. supply</i>	C.C.
Caudal nominal <i>Nominal flow rate</i>	80 l/min.	Conexión de alimentación <i>Connection method</i>	DIN 43650
Presión máx. en drenaje <i>Max. pressure in drain line</i>	1 bar	Protección según <i>Protection to</i>	IP-54
Presión máx. en pilotaje <i>Max. pressure in pilot line</i>	30 bar	Protección del enchufe <i>Connector protection</i>	IP-65
Mínima presión en pilotaje <i>Min pressure in pilot line</i>	25 bar	Gama de tensiones para C.C. <i>D.C. voltage range</i>	12 V - 24 V
Fluido recomendado <i>Fluid to be used</i>	ISO 6743 tipo HM-HV-HG ISO 3448 cat. VG32 - VG46	Potencia nominal <i>Nominal power</i>	13,6 W
Gama de temperaturas <i>Temperature range</i>	-20°C ... +80°C	Intensidad nominal <i>Nominal current</i>	12 v → 2100 mA / 24 V → 1200 mA
Viscosidades <i>Viscosity range</i>	4 - 500 cSt.	Factor de marcha <i>Operating factor</i>	100 %
Grado de limpieza del aceite <i>Recommended fluid cleanliness</i>	19/16 s/. ISO 4406 RP 70 H		



- P Entrada a presión
Pressure port
- A y B Tomas a cilindros o motores
Outlet ports
- T Retorno a depósito
Tank port
- X Entrada pilotaje
Pilot line
- Y Drenaje a depósito
Pilot external drain

Tipo distribuidor <i>D. control valve type</i>	F	G	A - B	P	T	X	Y
406	35	98	1/2" BSP	3/4" BSP	3/4" BSP	1/8" BSP	1/8" BSP
1406	39	102	3/4" BSP				

Nº DE ELEMENTOS <i>SPOOL QUANTITY</i>	1	2	3	4	5	6
D	106	144	182	220	258	296
E	131	169	207	245	283	321
Peso en kg. <i>Weight in kg.</i>						



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