BADESTNOST
Joint Stock Co.

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE P40, P40R

РАСПРЕДЕЛИТЕЛЬ ГИДРАВЛИЧЕСКИЙ РУЧНОГО УПРАВЛЕНИЯ, ТИП P40, P40R

ТЕХНИЧЕСКИЕ ДАННЫЕ
TECHNICAL DATA

Номинальный дебит	40 l/min
Rated flow	40 l/min
Номинальное давление	
Rated pressure	
– на выходах P, A, B и N	25 MPa
– in outlets P, A, B and N	25 MPa
– на выходе T	10 MPa
– in outlets T	10 MPa
Диапазон давлений	5÷25 MPa
The control pressure range	5÷25 MPa
Рабочая жидкость – гидравлические масла с показателями	
Working liquid – hydraulic oils characteristics	
– кинематическая вязкость	10÷400 mm^2/s
– kinematic viscosity	10÷400 mm^2/s
– степень фильтрации	25 μm
– degree of filtration	25 μm
– температура	
– temperature	
– нормальный вариант	–20÷+80°C
– normal fulfiment	–20÷+80°C
– морозоустойчивый вариант	–40÷+60°C
– cold resistant fulfiment	–40÷+60°C
Температура окружающей среды	
Ambient temperature	
– нормальный вариант	–20÷+60°C
– normal fulfiment	–20÷+60°C
морозоустойчивый вариант	–40÷+40°C
cold resistant fulfiment	–40÷+40 °C

НАЗНАЧЕНИЕ

Распределитель гидравлический P40 служит для пуска, остановки и контроля за дебитом рабочей жидкости между генераторами напорного потока (гидравлические насосы), потребителями рабочего напорного потока (гидравлические цилиндры, моторы и др.) и резервуаром.

GENERAL DESCRIPTION

The directional control valve is used for starting, stooping and controlling the working liquid flow between the generators of pressurized flow (hydraulic pumps), the consumers of such a flow (hydraulic cylinders, motors and s.o.) and the tank.

КОНСТРУКЦИЯ

Распределитель гидравлический P40 представляет собой моноблочный распределитель ручного управления. В производстве распределителей имеются варианты с параллельным и последовательным распределением масла.

KONSTRUKTION

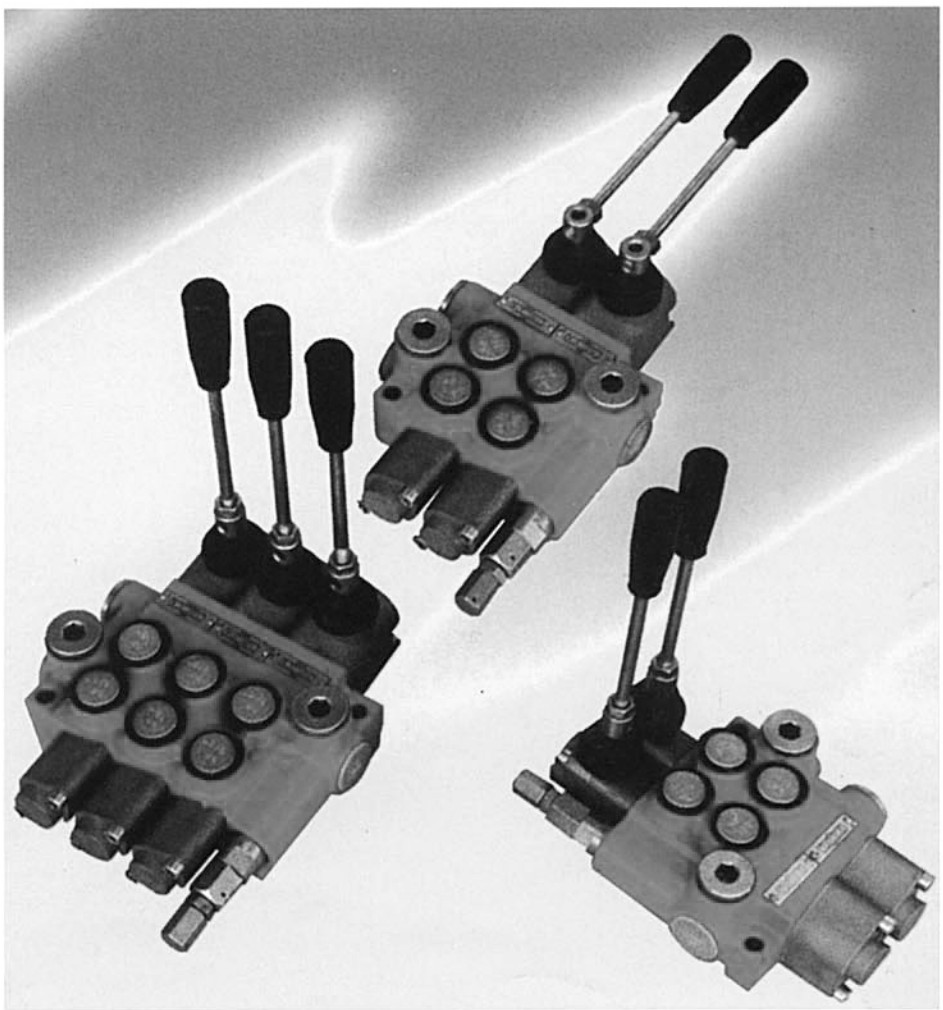
The directional control valve is a monoblock type, manually operated. In production is a variant of working liquid parallel and series distribution.

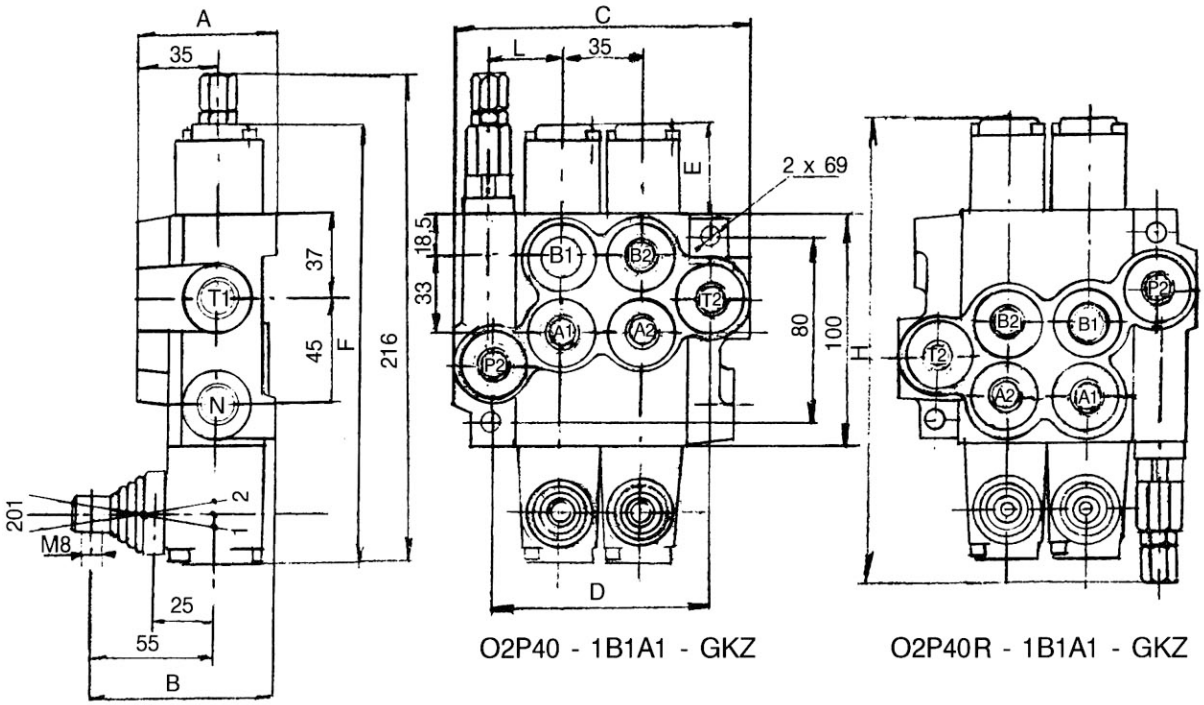
КРЕПЛЕНИЕ

Распределитель крепится к месту монтажа двумя болтами M8.

MOUNTING

The directional control valve is mounted to its proper place by means of two bolts M8.





O2P40 - 1B1A1 - GKZ

O2P40R - 1B1A1 - GKZ

ТАБЛИЦА 1
TABLE 1

	A	B	C	D	L	P1	T1	P2	T2
P40	60	80	85	60	28	+	+	–	–
02P40	60	80	129	97	30	+	+	+	+
03P40	60	80	164	132	30	+	+	+	+
04P40	60	80	199	167	30	+	+	+	+
3P40	68	88	164	132	30	+	+	+	+
4P40	68	88	199	167	30	+	+	+	+

ТАБЛИЦА 2
TABLE 2

ЦЕНТРОВКИ И ФИКСАЦИИ ПЛУНЖЕРА SPOOL CONTROL	E	H	F
1; 4; 5; 6; 7; 8; 9; 10; 11	40	203	193
2; 3	72	235	225

O 2 P40 R – 1 B 1 A 1 – G KZ1 H E C2 – 11

O – у распределителя общий обратный клапан
O – Hydraulic directional control valve with common check valve
– у распределителя отдельные обратные клапаны
– Hydraulic directional control valve with separate check valves

– число плунжеров Табл. 3
– Spools number – Table 3

– Распределитель гидравлический типа P40
– Hydraulic directional control valve – type P40

R – система рычага находится со стороны предохранительного клапана
R – Operation general feature is from the side of the valve
– система рычага находится напротив предохранительного клапана
– Operation general feature is on the opposite side of the valve

распределение масла в распределителе – Табл. 4
Way of working liquid distribution – Table 4

Способ распределения масла через I плунжер – Табл.5
First spool distribution scheme – Table 5

Вид центровки и фиксации плунжера – Табл.6
Way of centering and fixing the spool – Table 6

Способ распределения масла через II плунжер – Табл.5
Second spool distribution scheme – Table 5

Вид центровки и фиксации плунжера – Табл.6
Way of centering and fixing the spool – Table 6

Способ ручного управления – Табл. 10
Operation general feature – Table 10

Особенности управления – Табл. 8
Operation features – Table 8

Возможность монтажа эл.микроключа – Табл. 7
Possibility of incorporating an electric microswitch

Наличие и вид наконечников – Табл. 11
Speciality of working liquid returning

Использованные отверстия P и T – Табл. 12
Connection port in use

Тип резьбы – Табл. 9
Standard threads Table 9

ТАБЛИЦА 3
TABLE 3

КОД CODE	ПЛУНЖЕР SPOOL
P	1
2P	2
3P	3
4P	4

ТАБЛИЦА 4
TABLE 4

КОД CODE	СПОСОБ РАСПРЕДЕЛЕНИЯ ПОТОКА THE WAY OF WORKING LIQUID DISTRIBUTION
1	ПАРАЛЛЕЛЬНОЕ РАСПРЕДЕЛЕНИЕ PARALLEL DISTRIBUTION
2	ПОСЛЕДОВАТЕЛЬНОЕ РАСПРЕДЕЛЕНИЕ SERIES DISTRIBUTION

3P40 – 1A1A1A1...

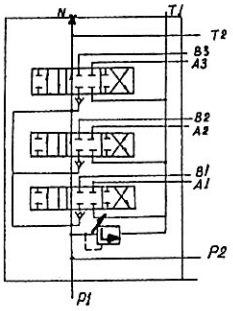
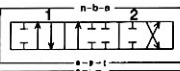
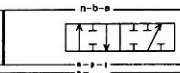
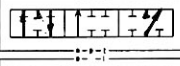
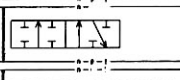
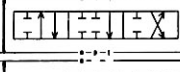
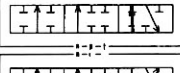
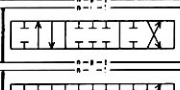
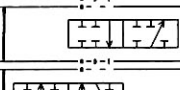
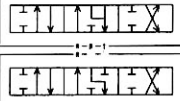
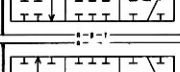
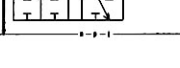
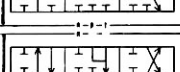
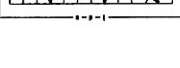
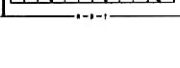


ТАБЛИЦА 5
TABLE 5

КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE	КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE	КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE
A		G		Q	
B		H		R	
C		M		S	
D		N		T	
E		O			
F		P			

3P40 – 2A1A1A1...

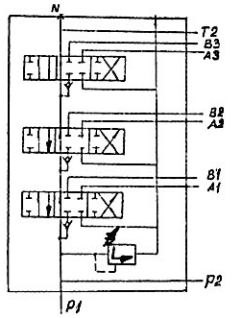
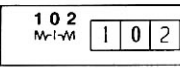
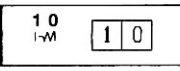
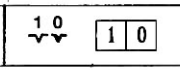
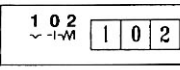
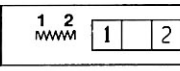
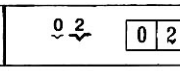
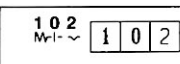
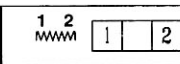
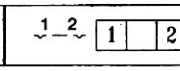
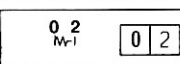
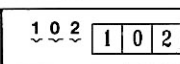


ТАБЛИЦА 6
TABLE 6

КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL	КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL	КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL
1		5		9	
2		6		10	
3		7		11	
4		8			

03P40 – 1A1A1A1...

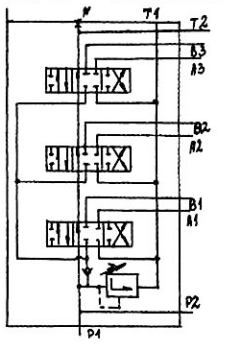
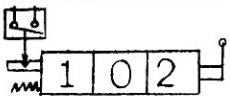
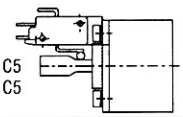
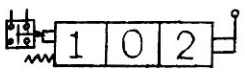
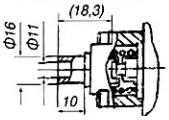


ТАБЛИЦА 7
TABLE 7

КОД CODE	ВОЗМОЖНОСТЬ МОНТАЖА ЭЛ. МИКРОКЛЮЧА POSSIBILITY OF INCORPORATING AN ELECTRIC MICROSWITCH	
E		Микроключ тип "OMRON" – V–165 I C5 Microswitch type "OMRON" – V–165 I C5 
E6		Для микроключ тип ППР3 Microswitch type ППР3 

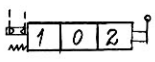
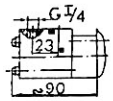
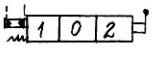
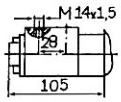
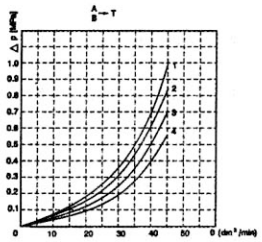
КОД CODE	ОСОБЕННОСТИ УПРАВЛЕНИЯ OPERATION FEATURES		
P		Пневмоническое управление Pneumatic operation 	Давление Pressure 6 bar
H		Гидравлическое управление Hydraulic operation 	Давление Pressure 6÷20 bar

ТАБЛИЦА 8
TABLE 8

ТАБЛИЦА 9
TABLE 9

КОД CODE	СТАНДАРТНЫЕ ВИДЫ РЕЗЬБЫ STANDARD TREADES	
	A . B	P . T . N
M	M 18 X 1.5	M 22 X 1.5
G	G 3/8"	G 1/2"



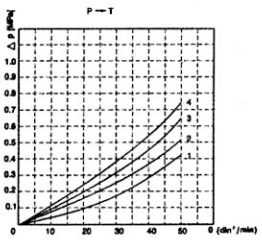
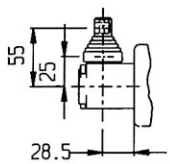
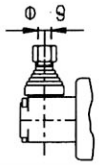
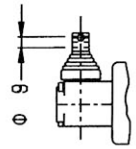
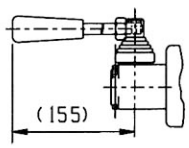
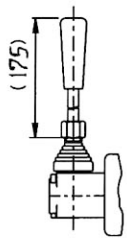
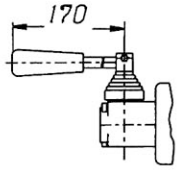
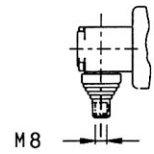
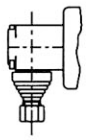
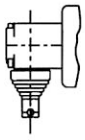
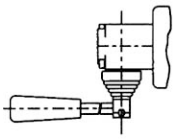
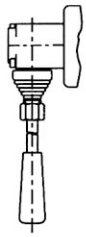
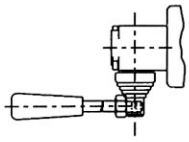


ТАБЛИЦА 10
TABLE 10

БЕЗЛОСТОВАЯ СИСТЕММА / WITHOUT LEVER SYSTEM					
КОД CODE	КОД CODE	КОД CODE	КОД CODE	КОД CODE	КОД CODE
KZ		KY		KI	
KZ1		KY1		KI1	
KZ0		KY0		KI0	
KZ01		KY01		KI01	

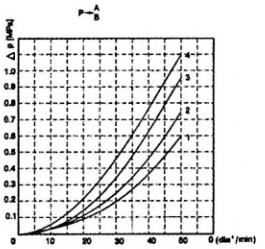


ТАБЛИЦА 11
TABLE 11

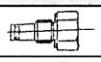
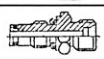
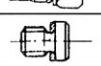
КОД CODE	ВИД НАКОНЕЧНИКА / LIQUID RETURNING	
C	Закрытый центр Closed center	
C1	Наличие наконечника высокого давления типа 1 Carry over type 1	
C2	Наличие наконечника высокого давления типа 2 Carry over type 2	
	Отверстие “N” обработано для наконечника carry over и закупорено пробкой Carry over	
X	Без выхода “N” Without “N”	

ТАБЛИЦА 12
TABLE 12

КОД CODE	ИСПОЛЬЗОВАННЫЕ ПРИСОЕДИНИТЕЛЬНЫЕ ОТВЕРСТИЯ CONNECTION PORTS IN USE
11	P1, T1
12	P1, T2
21	P2, T1
22	P2, T2

ДАННЫЕ, ОТЛИЧАЮЩИЕСЯ ОТ УКАЗАННЫХ В ПРОЕКТЕ, ДОГОВАРИВАЮТСЯ С ПРОИЗВОДИТЕЛЕМ
FOR ALL OTHER DETAILS, PLEASE CONTACT FACTORY

БЪДЕЩНОСТ
Акционерно Дружество

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE P80, P80R

РАЗПРЕДЕЛИТЕЛ ХИДРАВЛИЧЕН С РЪЧНО УПРАВЛЕНИЕ, ТИП P80, P80R

TECHNICAL DATA
ТЕХНИЧЕСКИ ДАННИ

Rated flow Номинален дебит	80 l/min
Rated pressure Номинално налягане	
– in outlets P, A, B and N на изводи P, A, B и N	320 MPa
– in outlets T на извод T	10 MPa
The control pressure range Диапазон на налягането	50 ÷ 320 MPa
Working liquid – hidraulic oils characteristics Работна течност – хидравлични масла с показатели	
– kinematic viscosity кинематичен вискозитет	10 ÷ 400 mm²/s
– degree of filtration степен на филтрация	25 μm
– temperature температура	
normal fulfiment нормално изпълнение	-25 ÷ +60°C

GENERAL DESCRIPTION
The directional control valve is used for starting, stooping and controlling the working liquid flow between the generators of pressurised flow (hidraulic pumps), the consumers of such a flow (hidraulic cylinders, motors and s. o.) and the tank.

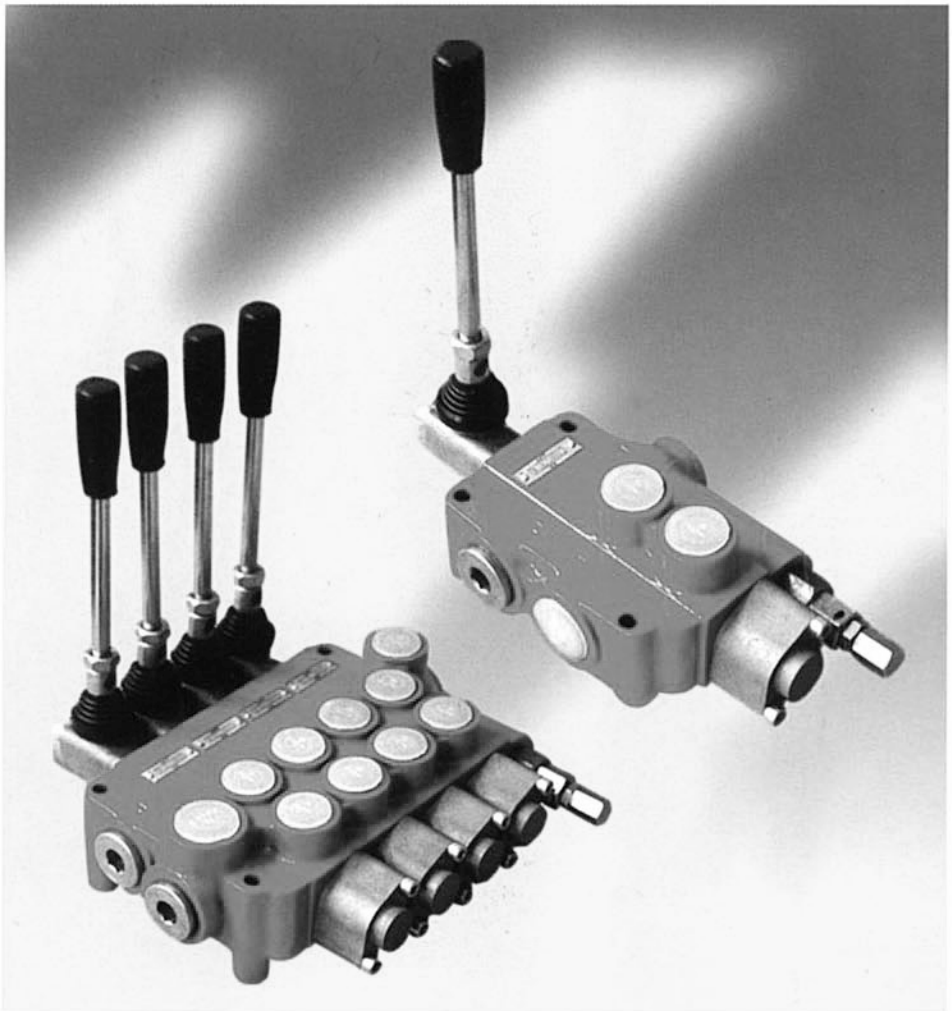
ПРЕДНАЗНАЧЕНИЕ
Хидравличният разпределител P 80 служи за пускане, спиране и направляване дебита на работната течност между генераторите на напорен поток (хидравличните помпи), потребителите на напорен поток (хидравлични цилиндри, мотори и др.) и резервоара.

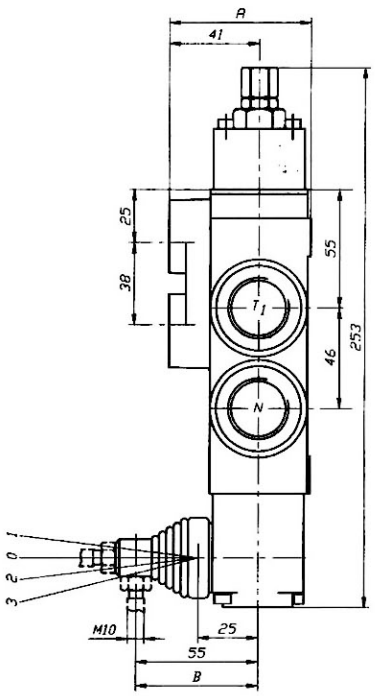
CONSTRUCTION
The directional control valve is a monoblock type, manually operated. In production is a variant of working liquid parallel, series or series-parallel distribution.

КОНСТРУКЦИЯ
Хидравличният разпределител тип P 80 е моноблочен разпределител с ръчно управление. В производството на разпределителите съществуват варианти с паралелно, последователно или паралелно-последователно разпределение на маслото.

MOUNTING
The directional control valve is mounted to its proper place by means of two bolts M8.

ЗАКРЕПВАНЕ
Разпределителят се закрепва към мястото на монтажа с два болта M8.





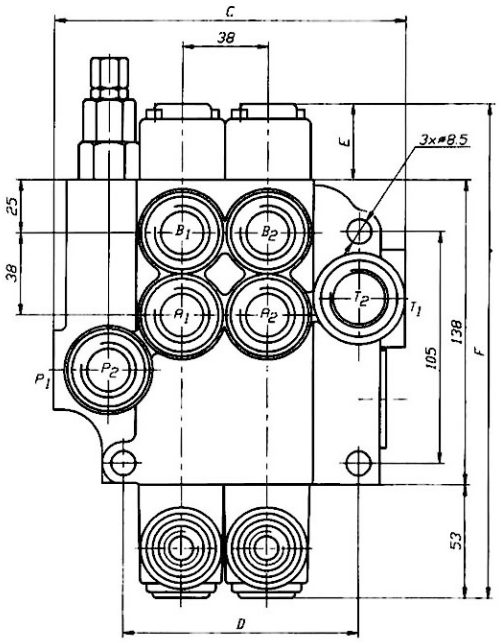


Table 1
Таблица 1

	A	B	C	D	P1	T1	P2	T2
P80	65	79	107	65	+	+	-	-
2P80	80	94	160	103	+	+	+	+
3P80	80	94	198	141	+	+	+	+
4P80	80	94	242	179	+	+	+	+

Table 1
Таблица 1

spool control Управление на плунжера	E	F
1, 4, 5, 6, 7, 8, 9, 10, 11	40	231
2, 3, 12	72	263
13	44	235

ORDERING CODE/НАЧИН НА ЗАЯВКА

2 P80 R – 2 / B 1 VE1 / A 1 / G / KZ1 / C2

Spools number – Table 3
Брой на плунжерите – Табл. 3

Hadraulic directional control valve – type P 80
Разпределител хидравличен с ръчно управление – тип P 80

Operation of the general feature
Местоположение на лостовата система
R – Operation general feature is from the side of valve
R – Лостова с-ма е отстрана на предпазния клапан
- – Operation general feature is opposite the side of valve
- – Лостовата с-ма е от страна срещуположна на предпазния клапан

Way of working liquid distribution – Table 4
Разпределение на маслото в разпределителя – Табл. 4
1 – Parallel – Паралелно
2 – Serial – Последователно

First spool distribution scheme – Table 5
Начин на разпределение на маслото през I плунжер – Табл. 5

Way of centering and fixing on the spool – Table 6
Вид на центриране и фиксиране на плунжера – Табл. 6

Additional built-in elements of the spool – Table 7
Допълнително изискване към плунжера – Табл. 7

Second spool distribution scheme – Table 5
Начин на разпределение на маслото през II плунжер – Табл. 5

Way of centering and fixing of the spool – Table 6
Вид на центриране и фиксиране на плунжера – Табл. 6

Standard threads – Table 8
Вид на резбата – Табл. 8

Operation general feature – Table 9
Наличие и вид на лостовата с-ма – Табл. 9

Speciality of working liquid returning – Table 10
Наличие и вид на накрайник – Табл. 10

CODE КОД	SPOOL ПЛУНЖЕР
P	1
2P	2
3P	3
4P	4

TABLE 3
ТАБЛИЦА 3

CODE КОД	THE WAY OF WORKING LIQUID DISTRIBUTION НАЧИН НА РАЗПРЕДЕЛЕНИЕ НА ПОТОКА
1	PARALLEL DISTRIBUTION ПАРАЛЕЛНО РАЗПРЕДЕЛЕНИЕ
2	SERIAL DISTRIBUTION ПОСЛЕДОВАТЕЛНО РАЗПРЕДЕЛЕНИЕ

TABLE 4
ТАБЛИЦА 4

TABLE 5
ТАБЛИЦА 5

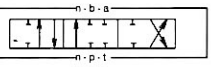
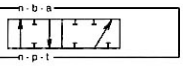
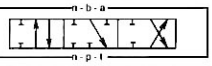
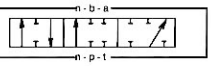
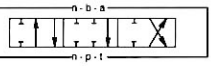
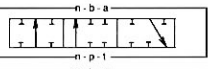
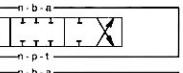
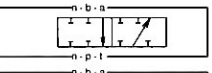
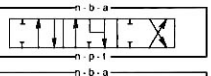
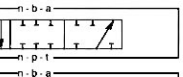
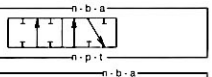
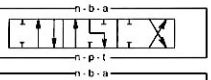
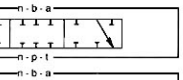
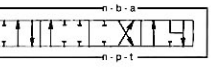
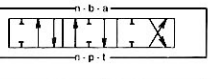
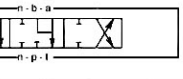
CODE КОД	SPOOL TYPE ТИП НА ПЛУНЖЕРА	CODE КОД	SPOOL TYPE ТИП НА ПЛУНЖЕРА	CODE КОД	SPOOL TYPE ТИП НА ПЛУНЖЕРА
A		G		Q	
B		H		R	
C		M		S	
D		N		T	
E		O		L	
F		P			

TABLE 6
ТАБЛИЦА 6

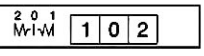
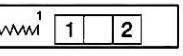
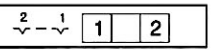
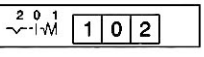
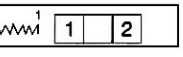
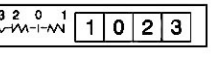
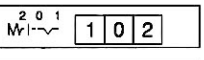
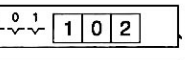
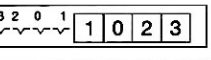
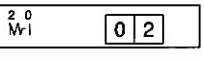
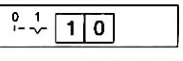
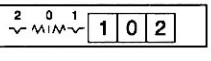
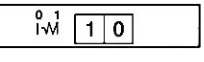
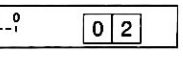
CODE КОД	SPOOL TYPE УПРАВЛЕНИЕ НА ПЛУНЖЕРА	CODE КОД	SPOOL TYPE УПРАВЛЕНИЕ НА ПЛУНЖЕРА	CODE КОД	SPOOL TYPE УПРАВЛЕНИЕ НА ПЛУНЖЕРА
1		6		11	
2		7		12	
3		8		13	
4		9		14	
5		10			

TABLE 7
ТАБЛИЦА 7

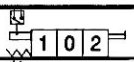
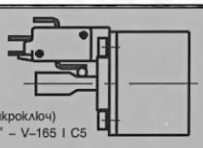
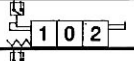
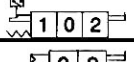
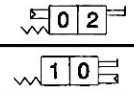
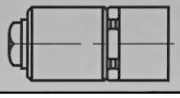
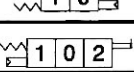
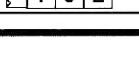
CODE КОД	ELECTROMAGNETIC CONTROL – E ЕЛЕКТРОМАГНИТНО E УПРАВЛЕНИЕ	PNEUMATIC CONTROL – P ПНЕВМАТИЧНО P УПРАВЛЕНИЕ
E1		 Microswith (микроключ) type „OMRON" – V–165 I C5
E2		
E3		
P3		
P2		
P1		

TABLE 8
ТАБЛИЦА 8

CODE КОД	STANDART TREADES СТАНДАРТНИ РЕЗБИ	
	P . A . B	. T . N
M	M 22 X 1.5	M 26 X 1.5
G	G 1/2"	G 3/4"

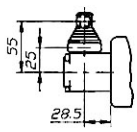
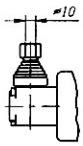
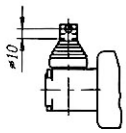
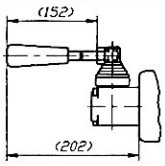
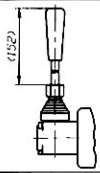
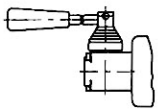
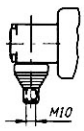
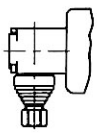
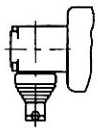
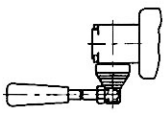
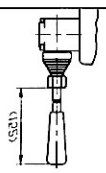
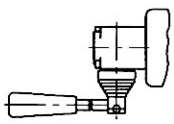
CODE КОД	WITH THREAD С РЕЗБА	CODE КОД	WITH CANGE С ЦАНГА	CODE КОД	WITH CANGE С ЦАНГА
Z		Y		I	
Z1		Y1		I1	
Z0		Y0		I0	
Z10		Y10		I10	
—	WITHOUT LEVER SYSTEM (БЕЗ ЛОСТОВА СИСТЕМА)				

TABLE 9
ТАБЛИЦА 9

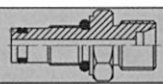
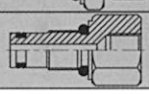
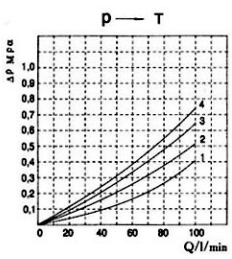
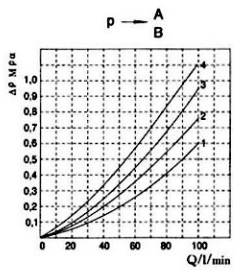
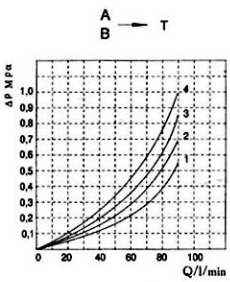
CODE КОД	LIQUID RETURNING/ ВИД НА НАКРАЙНИКА	
–	OPEN CENTER/ОТВОРЕН ЦЕНТЪР	
C	CLOSED CENTER/ЗАТВОРЕН ЦЕНТЪР	
C1	CARRY_OVER TYPE 1 НАКРАЙНИК ТИП 1	
C2	CARRY_OVER TYPE 2 НАКРАЙНИК ТИП 2	

TABLE 10
ТАБЛИЦА 10

CHARACTERISTICS
ХАРАКТЕРИСТИКИ







БЪДЕЩНОСТ
Акционерно Дружество

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE PX 120

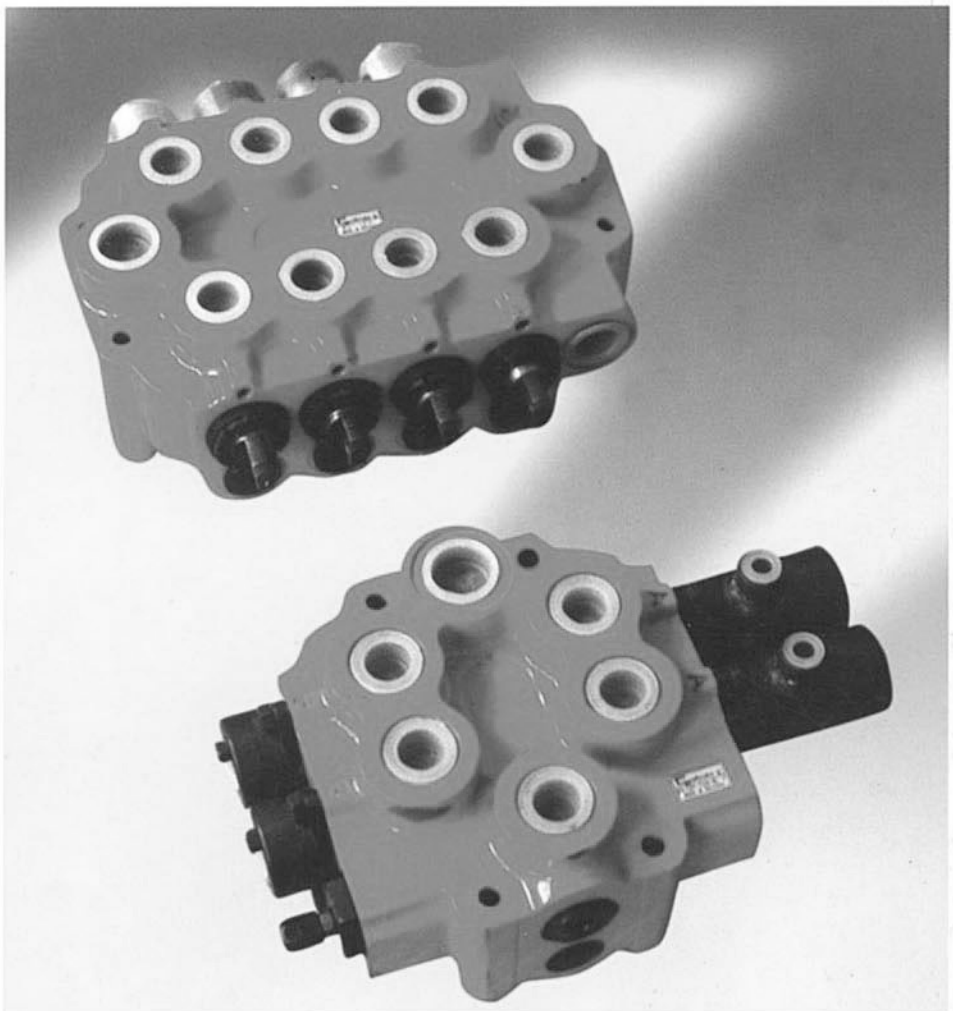
РАЗПРЕДЕЛИТЕЛ ХИДРАВЛИЧЕН С РЪЧНО УПРАВЛЕНИЕ, ТИП PX 120

TECHNICAL DATA
ТЕХНИЧЕСКИ ДАННИ

Rated flow Номинален дебит	120 l/min
Rated pressure Номинално налягане	
– in ports P, A, B в отвори P, A, B	25 MPa
– in port T в отвор T	3 MPa
Pressure control range of the main relief valve Обхват на регулиране на предпазния клапан	3÷25 MPa
Working liquid – hidraulic oils characteristics: Работна течност – хидравлични масла с показатели	
– kinematic viscosity кинематичен вискозитет	10÷400 mm²/s
– degree of filtration степен на филтрация	25 μm
– temperature температура	--25÷60°C

GENERAL DESCRIPTION
The directional control valve type PX 120 is designed for starting, stopping and handling the working liquid flow between the generators of pressurized flow (hydraulic pumps), consumers of such a flow (hydraulic cyllinders and s. o.) and the tank, in the hydraulic systems of mobile machines (electric trucks, engine powered trucks, excavators, autocranes, etc.).

ПРЕДНАЗНАЧЕНИЕ
Разпределител хидравличен PX 120 служи за управление на посоката на движение на работната течност между генераторите на напорен поток (хидравлични помпи), потребителите на напорен поток (хидравлични цилиндри и др.) и резервоара на хидравличните системи на мобилни машини (електро и мотокари, багери, автокранове и др.)



CONSTRUCTION
The directional control valve type PX 120 is a monoblock type, manually operated. Directional control valves in production arewith three variants of working liquid distribution – parallel, serial-parallel and serial. The charging line of each spool is equipped with check valves, preventing against return of working liquid in case of pump or motor accidental stopping. The primary line of the directional control valve has a built-in main relief valve with indirect operation. Each consumer port can be with built-in secondary shock and relief valves. The directional control valve can be also with end fitting of high pressure (CARRY OVER) see fig.5 and with pressure gauge socket to the primary line connected to the pump.

КОНСТРУКЦИЯ
Хидравличният разпределител е моноблочен разпределител с ръчно управление, осъществяващ паралелно, последователно или паралелно-последователно разпределение на работната течност.. Изпълняват се във варианти с два или четири плунжера. Към плунжерите могат да се вграждат вторични предпазни, антикавитационни и обратни клапани с механично или хидравлично управление, които допълнително осигуряват системата.

MOUNTING
To the place of mounting by means of four securing bolts, M10.

ЗАКРЕПВАНЕ
Разпределителят се закрепва към мястото на монтажа чрез четири болта М 10.

БЪДЕЩНОСТ
Акционерно Дружество

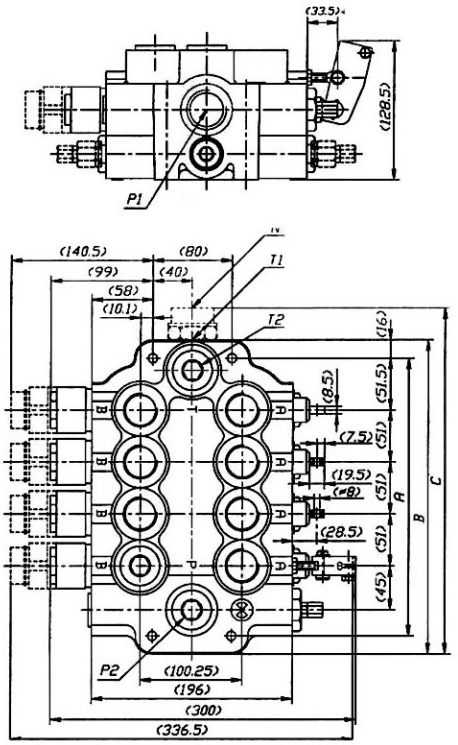
EXAMPLE: PX 120-1AAA9C/T2/2411M /11 designates a hydraulic directional control valve, type 120 with working liquid parallel distribution /1/; with three double-operating spools A /Table 2/; third spool incorporates secondary relief valve and shock valve to the outlet B /9/; distribution scheme of the fourth spool is C; tropical version /T/; lever sysytem for manual operation /2/; spools spring centering:
- I spool – 2 Table 6
- II spool – 4 Table 6
- III spool – 1 Table 6;

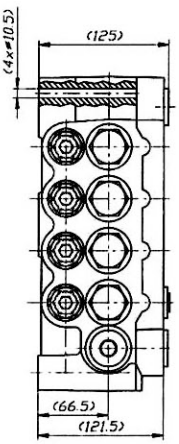
built-in pressure gauge socket /M/; open center / /; with pump outlet P_1 and tank outlet T_1 /11/.

ПРИМЕР: PX 120-1AAA9C/T2/2411M /11 означава: разпределител хидравличен, тип PX 120, с паралелно разпределение код „1" /Табл.1/, комбинация от три двойнодействащи плунжера код „A" /Табл.2/, като третия плунжер е с вграден антикавитационен клапан към отвор „B" код „9" /Табл.3/ и един еднодействащ плунжер код „C" /Табл.2/, тропическо изпълнение код „T" /Табл.4/, ръчно управление код „2" /Табл.5/, центриране на плунжерите:
- I плунжер – код „2" /Табл. 6/
- II плунжер – код „4" /Табл. 6/
- III и IV пл. – код „1" /Табл. 6/

вграден накрайник за манометър код „M" /Табл. 7/, с отворен център код „ " /Табл. 8/, използвани отвори P1 и T1 код „11" /Табл. 9/

Spool's number Номер на плунжера	2	4
A (mm)	171	273
B (mm)	203	305
C (mm)	236	338
Mass (Kg)	20	34





HOW TO ORDER
НАЧИН НА ЗАЯВКА

PX 120 1 A . A . A 9 C . /T 2 /2411 . /. 11

Hydraulic directional control valve
Разпределител хидравличен

type 120 тип 120

Way of distribution – Table 1
Разпределение на раб. течност – Табл.1

First spool distribution scheme – Table 2
Схема на разпределение на 1ви плунжер – Табл.2

Secondary valves to the 1st spool – Table 3
Вградени към I пл. клапани – Табл.3

Second spool distribution scheme – Table 2
Схема на разпределение на 2ри плунжер – Табл.2

Secondary valves to the 2nd spool – Table 3
Вградени към II пл. клапани – Табл.3

Third spool distribution scheme – Table 2
Схема на разпределение на 3ти плунжер – Табл.2

Secondary valves to the third spool – Table 3
Вграждане към III пл. клапани – Табл.3

Fourth spool distribution scheme – Table 2
Схема на разпределение на 4ти плунжер – Табл.2

Secondary valves to fourth spool – Table 3
Вграждане към IV пл. клапани – Табл.3

Climatic version – Table 4
Вид на климатичното изпълнение на разпределителя – Табл.4

General features of operation – Table 5
Вид на ръчното управление на плунжера – Табл.5

Way of centering, fixing and stroke restriction correspondingly on the 1st, 2nd, 3rd, 4th spool – Table 6
Вид на центрирането на 1, 2, 3 и 4 плунжер – Табл.6

Availability of pressure gauge socket – Table 7
Възможност за вграждане на накрайник за манометър – Табл.7

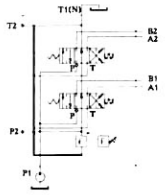
General feature of working liquid return – Table 8
Възможност за вграждане на накрайник за високо налягане – Табл.8

Connection ports in use – Table 9
Изпълнение на отворите за присъединяване – Табл.9

TABLE 1
ТАБЛИЦА 1

CODE КОД	THE WAY OF WORKING LIQUID DISTRIBUTION НАЧИН НА РАЗПРЕДЕЛЕНИЕ НА РАБОТНАТА ТЕЧНОСТ
1	PARALLEL ПАРАЛЕЛНО
2	SERIAL – PARALLEL ПОСЛЕДОВАТЕЛНО – ПАРАЛЕЛНО

PARALLEL DISTRIBUTION
ПАРАЛЕЛНО РАЗПРЕДЕЛЕНИЕ



SERIAL-PARALLEL DISTRIBUTION
ПОСЛЕДОВАТЕЛНО ПАРАЛЕЛНО РАЗПРЕДЕЛЕНИЕ

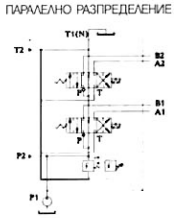


TABLE 2
ТАБЛИЦА 2

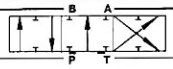
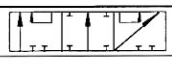
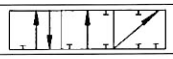
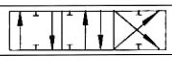
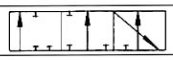
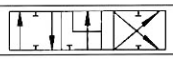
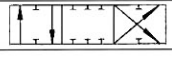
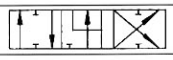
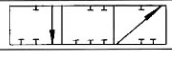
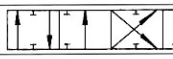
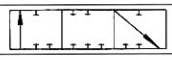
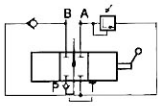
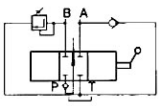
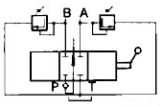
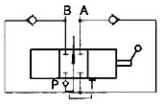
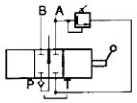
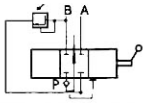
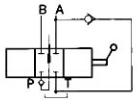
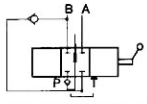
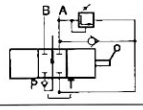
CODE КОД	SPOOLS DISTRIBUTION SCHEMES СХЕМА НА РАЗПРЕДЕЛЕНИЕ НА ПЛУНЖ.	CODE КОД	SPOOLS DISTRIBUTION SCHEMES СХЕМА НА РАЗПРЕДЕЛЕНИЕ
A		P	
B		M	
C		T	
E		X	
H		Y	
K		Z	

TABLE 3
ТАБЛИЦА 3

Combinations of secondary valves incorporation
Комбинации за вграждане на предпазни и антикавитационни клапани

CODE КОД	FUNCTIONAL SYMBOL ФУНКЦИОНАЛНА СХЕМА	DESCRIIPTION ЗАБЕЛЕЖКА
1		RELIEF VALVE ON THE OUTLET A ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД А ANTI-CAVITATION VALVE TO THE OUTLET B АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД В
2		ANTI-CAVITATION VALVE TO THE OUTLET A АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД А RELIEF VALVE ON THE OUTLET B ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД В
3		RELIEF VALVES TO THE OUTLETS A AND B ПРЕДПАЗНИ КЛАПАНИ КЪМ ИЗВОДИТЕ А И В
4		ANTI-CAVITATION VALVES TO THE OUTLETS A AND B АНТИКАВИТАЦИОННИ КЛАПАНИ КЪМ ИЗВОДИТЕ А И В
5		RELIEF VALVE TO THE OUTLET A ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД А
6		RELIEF VALVE TO THE OUTLET B ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД В
7		ANTI-CAVITATION VALVE ON THE OUTLET A АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД А
8		ANTI-CAVITATION VALVE ON THE OUTLET B АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД В
9		RELIEF AND ANTI-CAVITATION VALVES ON THE OUTLET A ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД А

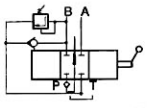
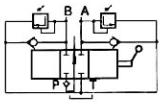
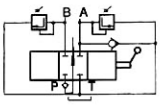
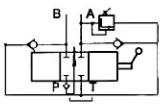
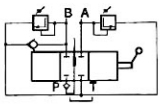
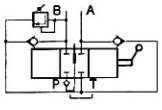
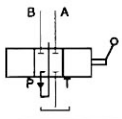
CODE КОД	FUNCTIONAL SYMBOL ФУНКЦИОНАЛНА СХЕМА	DESCRIIPTION ЗАБЕЛЕЖКА
10		RELIEF AND ANTI-CAVITATION VALVES ON THE OUTLET B ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД В
11		RELIEF AND ANTI-CAVITATION VALVES ON THE OUTLET A AND RELIEF AND ANTI-CAVITATION VALVES ON THE OUTLET B ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД А И ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД В
12		RELIEF AND ANTI-CAVITATION VALVE ON THE OUTLET A AND RELIEF ON THE OUTLET B ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД А И ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД В
13		RELIEF AND ANTI-CAVITATION VALVE ON THE OUTLET A; ANTI-CAVITATION VALVE ON THE OUTLET B ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД А И АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД В
14		RELIEF AND ANTI-CAVITATION VALVE TO THE OUTLET B AND RELIEF TO THE OUTLET A ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД В И ПРЕДПАЗЕН КЛАПАН КЪМ ИЗВОД А
15		RELIEF AND ANTI-CAVITATION VALVE ON THE OUTLET B; ANTI-CAVITATION VALVE ON THE OUTLET A ПРЕДПАЗЕН И АНТИКАВИТАЦИОНЕН КЛАПАНИ КЪМ ИЗВОД В И АНТИКАВИТАЦИОНЕН КЛАПАН КЪМ ИЗВОД А
		NO RELIEF AND ANTI-CAVITATION VALVES TO THE OUTLETS A AND B ОТСЪСТВИЕ НА ПРЕДПАЗНИ И АНТИКАВИТАЦИОННИ КЛАПАНИ КЪМ ИЗВОДИТЕ А И В

TABLE 3
ТАБЛИЦА 3

CODE КОД	CLIMATIC VERSION КЛИМАТИЧНО ИЗПЪЛНЕНИЕ
	NORMAL / НОРМАЛНО
T	TROPICAL / ТРОПИЧЕСКО
N	COLD RESISTANT / СТУДОУСТОЙЧИВО

TABLE 4
ТАБЛИЦА 4

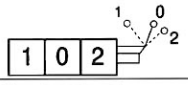
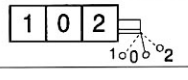
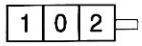
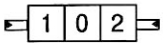
CODE КОД	OPERATION FEATURES ОСОБЕНОСТИ НА УПРАВЛЕНИЕТО	
1	MANUAL OPERATION РЪЧНО УПРАВЛЕНИЕ	
2	MANUAL OPERATION РЪЧНО УПРАВЛЕНИЕ	
3	WITHOUT LEVER SYSTEM БЕЗ ЛОСТОВА СИСТЕМА	
H	HYDRAULIC OPERATION ХИДРАВЛИЧНО УПРАВЛЕНИЕ	

TABLE 5
ТАБЛИЦА 5

TABLE 6
ТАБЛИЦА 6

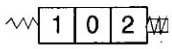
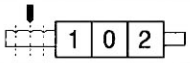
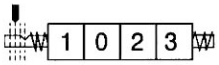
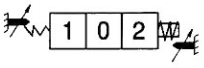
CODE КОД	THE WAY OF CENTERING, FIXING AND RESTRICTION OF SPOOL STROKE ВИД НА ЦЕНТРИРАНЕ, ФИКСИРАНЕ И ОГРАНИЧАВАНЕ ХОДА НА ПЛУНЖЕРА	
1	SPRING CENTERING ПРУЖИННО ЦЕНТРИРАНЕ	
2	FIXING IN POSITIONS 1, 0 AND 2 ФИКСИРАНЕ В ПОЗИЦИИ 1, 0 И 2	
3	SPRING CENTERING AND FIXING IN POSITION 3 ПРУЖИННО ЦЕНТРИРАНЕ И ФИКСИРАНЕ В ПОЗИЦИЯ 3	
4	SPRING CENTERING AND ADJUSTED RESTRICTION OF THE STROKE ПРУЖИННО ЦЕНТРИРАНЕ И РЕГУЛИРАНЕ ОГРАНИЧАВАНЕТО НА ХОДА	

TABLE 7
ТАБЛИЦА 7

CODE КОД	AVAILABILITY OF PRESSURE GAUGE SOCKET НАЛИЧИЕ НА НАКРАЙНИК ЗА МАНОМЕТЪР
	WITHOUT PRESSURE GAUGE SOCKET БЕЗ НАКРАЙНИК ЗА МАНОМЕТЪР
M	WITH BUILT-IN PRESSURE GAUGE SOCKET С НАКРАЙНИК ЗА МАНОМЕТЪР

TABLE 8
ТАБЛИЦА 8

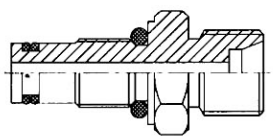
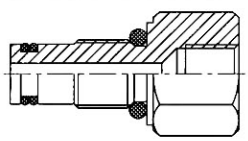
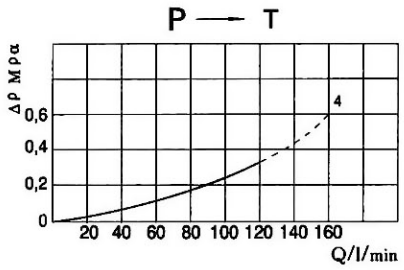
CODE КОД	SPECIALITY OF WORKING LIQUID RETURNING ОСОБЕНОСТИ НА ВРЪЩАНЕ НА РАБОТНАТА ТЕЧНОСТ	
	OPEN CENTER / ОТВОРЕН ЦЕНТЪР	
C	CLOSED CENTER / ЗАТВОРЕН ЦЕНТЪР	
C1	WITH BUILT-IN CARRY OVER TYPE 1 С ВГРАДЕН НАКРАЙНИК ТИП 1	
C2	WITH BUILT-IN CARRY OVER TYPE 2 С ВГРАДЕН НАКРАЙНИК ТИП 2	

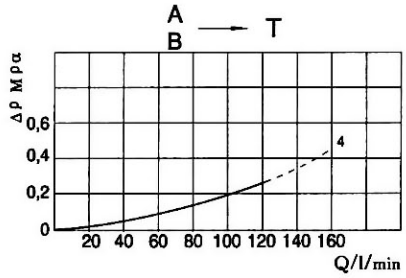
TABLE 9
ТАБЛИЦА 9

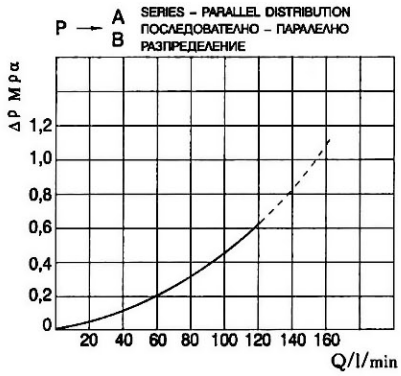
CODE КОД	CONNECTION PORTS IN USE ИЗПОЛЗУВАНИ ПРИСЪЕДИНИТЕЛНИ ОТВОРИ
11	P_1T_1
12	P_1T_2
21	P_2T_1
22	P_2T_2
1	P_1T_2N
2	P_2T_2N

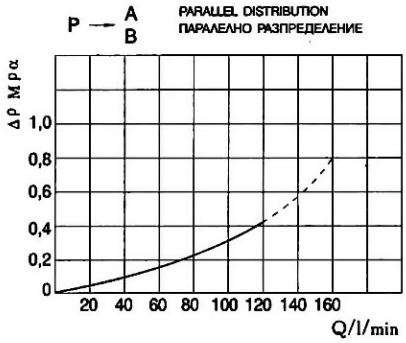
TABLE 10
ТАБЛИЦА 10

CODE КОД	PORTS THREADED VERSIONS РЕЗБОВИ ИЗПЪЛНЕНИЯ НА ОТВОРИТЕ		DESCRIPTION ЗАБЕЛЕЖКА
P,A,B	M27x2		The concrete version or variants on specific requests have to be written after the designation. Други варианти на резбови изпълнения на отворите се договарят допълнително.
	M33x2		
T	M33x2		
N	VERSION C1	M36x2	
	VERSION C2	M27x2	

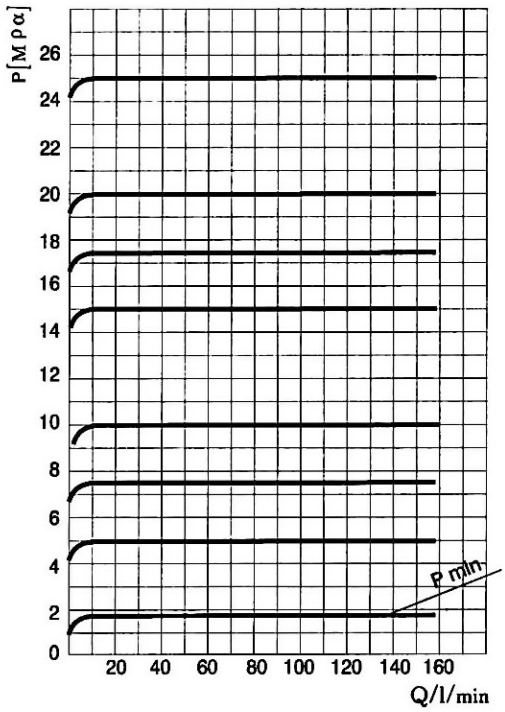








The characteristics of Δp=f(Q) at working liquid of kinematic viscosity 35 mm²/s and temperature of 50°C.
Характеристики Δp=f(Q) при работна течност с кинематичен вискозитет 35 mm²/s и температура 50°C.



The characteristic of p=f(Q) of the main relief valve at working liquid with kinematic viscosity of 35 mm²/s and temperature of 50°C.
Характеристики p=f(Q) на основния предпазен клапан при работна течност с кинематичен вискозитет 35 mm²/s и температура 50°C.

БЪДЕЩНОСТ
Акционерно Дружество

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE P X 346

РАЗПРЕДЕЛИТЕЛ ХИДРАВЛИЧЕН С РЪЧНО УПРАВЛЕНИЕ, ТИП РХ 346

TECHNICAL DATA
ТЕХНИЧЕСКИ ДАННИ

Rated pressure Номинално налягане	20 MPa
Rated flow Номинален дебит	60 l/min
Presuuure control range of the relief valve Обхват на регулиране налягането на предпазния клапан	from 7 to 20 MPa от 7 до 20 MPa
Working liquid – hydraulic oil characteristics Работна течност – хидравлични масла с показатели:	
– viscosity вискозитет	10÷400 mm/s
– degree of filtration степен на филтрация	0,063 μm
– temperature – температура на работната течност	-25 ÷ +60C

GENERAL DESCRIPTION
The directional control valve 346 is designed for controlling the working liquid direction between the generators of the pressurized flow (hydraulic pumps), the consumers of pressurized flow (hydraulic pumps), the consumers of pressurized flow (hydraulic cyllinders and hydromotors) and the tank.

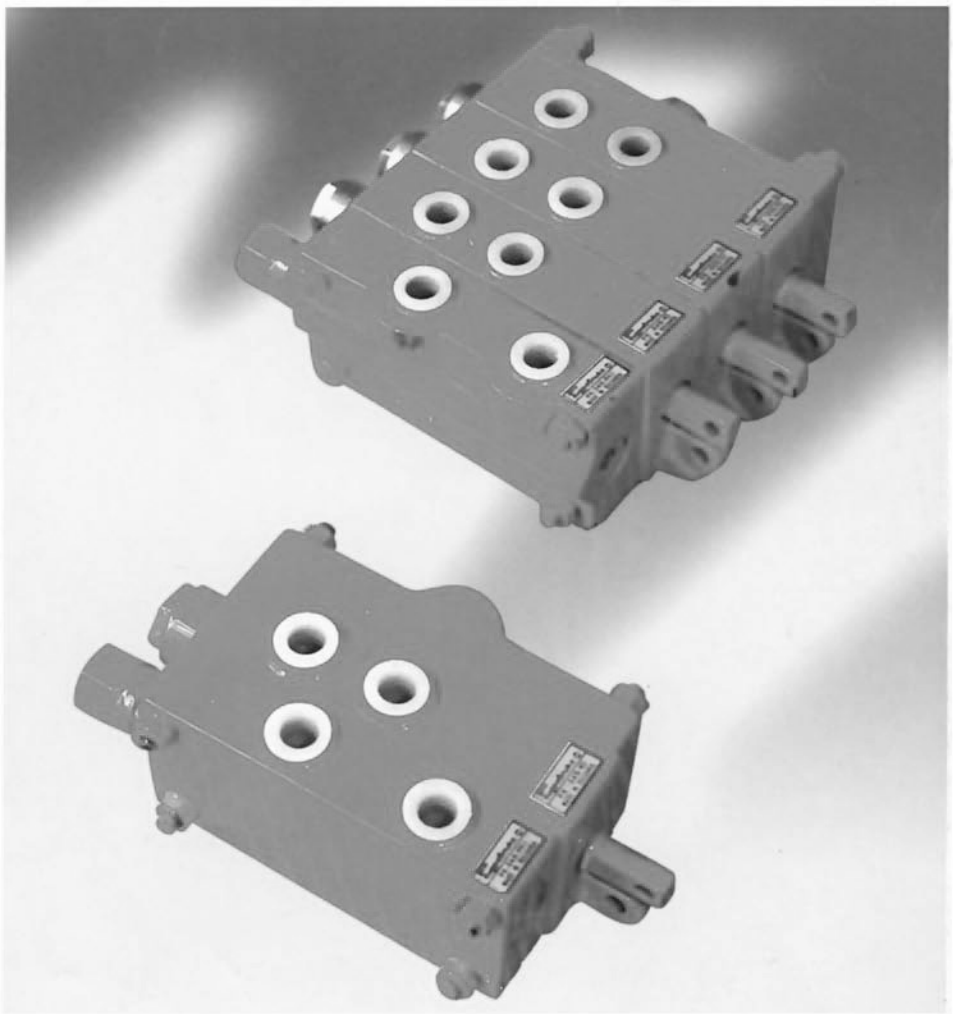
ПРЕДНАЗНАЧЕНИЕ
Разпределител тип 346 служи да управлява посоката на движението на работната течност между генераторите на напорен ток (хидравлични помпи), потребителите на напорен поток (хидравличните цилиндри и хидромоторите) и резервоара.

CONSTRUCTION
Directional control valve 346 is a section type, with manual operation. Provides parallel or serial distribution of the working liquid and its direct flow to the tank without activating the sections. Consists of front cover, with built-in relief valve or flow regulator, a combination of a single-acting and double-acting three-position sections (max 8 pcs) and an end cover.

КОНСТРУКЦИЯ
Разпределител 346 е от батериен тип, с ръчно управление. Осигурява паралелно или последователно разпределение на работната течност и директното ѝ протичане към резервоара при незадействани секции. Състои се от начален капак с вграден предпазен клапан, комбинация от едно и двойнодействащи трипозиционни секции (най-много 8 броя) и краен капак.

MOUNTING
The directional control valve is mounted by four bolts M8.

ЗАКРЕПВАНЕ
Закрепването на разпределителя към мястото на монтажа се осъществява с 4 болта М8.



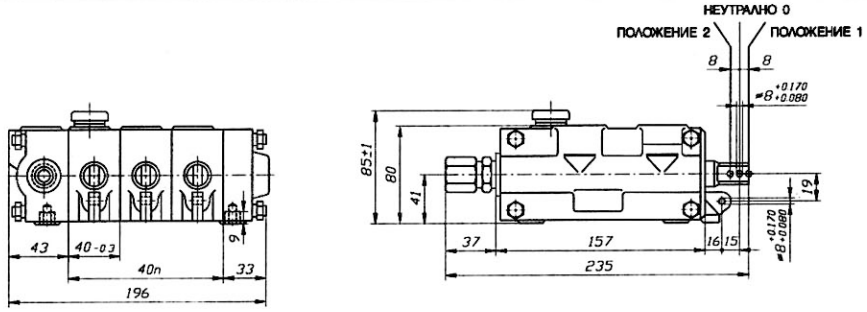
Example:
Пример:

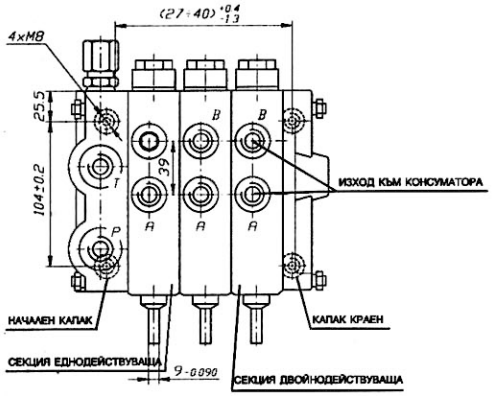
PX 346 – 4/Bn 1/C1/C1/3/M means: hydraulic directional control valve type PX 346 with front cover 4 (Table 1) single acting section „Bn" (Table 2) with centering of the spool (Table 3) two double acting sections „5" (Table 2) and an end cover code „3" (Table 4). All connecting outlets are with metric-thread from columns M (Tables 1, 2, 4).

PX 346 – 4/Бн 1/C 1/C 1/3/M означава разпределител хидравличен тип PX 346 с начален капак „4" (Табл. 1) секция еднодействаща „Бн" (Табл. 2) с центриране на плунжера код „1" (Табл. 3), два броя секции двойнодействащи „C" (Табл. 2) с центриране на плунжера код „1" (Табл. 3) и капак краен код „3" (Табл. 4). Всички присъединителни отвори са с метрична резба по колони „M" (Табл. 1, 2, 4

PX 346 – 1/K8/K8/K8/K8/K8/1/G/Y means: directional control valve with front cover 1 (Table 1), five double-acting sections „K" (Table2) with centering of spool code 8 (Table3) and an end cover 1 (Table 4). All connectinting outlets are with threads from columns G (Tables 1, 2, 4) and control of the spool code Y (Table 5).

PX 346 – 1/K 8/K 8/K 8/K 8/K 8/1/6/Y означава разпределител с капак начален „1" (Табл. 2), пет броя секции двойнодействащи „K" (Табл. 2) с центриране на плунжера код „8" (Табл. 3) и капак краен „1" (Табл. 4). Всички присъединителни отвори са с резби от колона „G" (Табл. 1, 2, 4) и управление на плунжера код „Y" (Табл. 5).





HOW TO ORDER
НАЧИН НА ЗАЯВКА:

4 / Бн 1 / C 1 / ... / 3 / M / ... /

PX 346 –
Type of the front cover – Table1
Вид на нач. капак. – Табл. 1

Type of I section – Table 2
Вид на I секция. – Табл. 2

Centering and fixing I spool – Table 3
Центр. и фикс. I пл. – Табл. 3

Type of II section – Table 2
Вид на II секция. – Табл. 2

Centering and fixing II spool – Table 3
Центр. и фикс. II пл. – Табл. 3

Section ordering on choice from Table 2 max 8 pcs with the corresponding fixing scheme from Table 3
Подреждане секциите по избор от Табл. 2 до 8 бр. със съотв. схема на фикс. от Табл. 3

Type of the end cover – Table 4
Вид на крайния капак – Табл. 4

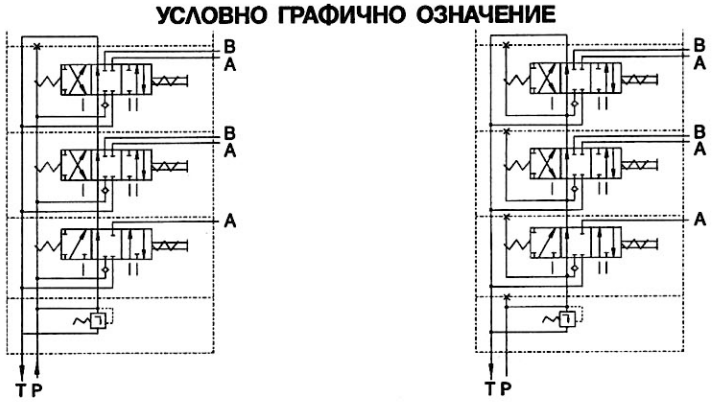
Thread perfomances of outlets A, B, P, T, N from Table 1, 2, 4
Резбово изпълнение на отвори A, B, P, T, N от Табл. 1, 2, 4

Spools control – Table 5
Управление на плунжери – Табл. 5

NOTE 1: In order to ensure parallel or serial distribution of the working liquid sections with serial or parallel acting are respectively combined.
ЗАБЕЛЕЖКА 1: За да се осигури паралелно или последователно разпределение на работната течност се комбинират секции съответно с паралелно или последователно действие.

NOTE 2: For realizing of combined acting first have to be arranged the sections with parallel acting followed by those with serial acting.
ЗАБЕЛЕЖКА 2: За осъществяване на комбинирано действие първо се подреждат секциите с паралелно действие и след това с последователно.

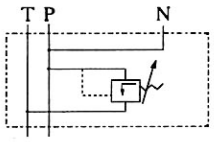
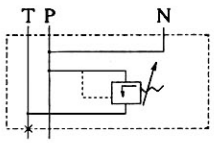
УСЛОВНО ГРАФИЧНО ОЗНАЧЕНИЕ



Directional control valve PX 346 is performed in various combinations according to the typeof the front cover, the chosen sections and the end cover. The technical data is given in Tables 1, 2, 5.
Разпределител хидравличен РХ 346 се изпълнява в различни комбинации според вида на началния капак, подбраните секции и крайния капак, данни за които са посочени в Таблици 1, 2, 5.

In table 3 are given the abilities for centering and fixing of the spool and table 6 – ways of driving (lever systems).
В таблица 3 са посочени възможности за центриране и фиксиране на плунжера, а в Таблица 6 – начина за привеждането му в действие (лостови) системи.

FRONT COVER TABLE 1
КАПАК НАЧАЛЕН ТАБЛИЦА 1

CODE ЗНАК	TYPE ТИП	INDEX ИНДЕКС	CONNECTING OUTLETS ПРИСЪЕДИНИТЕЛНИ ОТВОРИ „M“ P	„M“ T	„G“ P	„G“ T	PRESSURE НАЛЯГАНЕ	DESIGNATION УСЛОВНО ОЗНАЧЕНИЕ
1	PK 1	12050	18x1,5	18x1,5	3/8"	3/8"	7–20	 за 1, 2, 3, 6
2	PK 2	12051	22x1,5	22x1,5	1/2"	1/2"		
3	PK 3	12052	27x2	27x2	3/4"	3/4"		
4	PK 4	12053	27x2	–	3/4"	–		 за 4, 5
5	PK 5	12056	18x1,5	–	3/8"	–		
6	PK 6	12057	22x1,5	27x2	1/2"	3/4"		

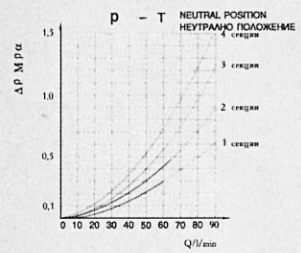
ORDERING FRONT COVER 346 – PK1/G means: Cover front with code 1 and P and T connecting outlets dimensions – 3/8" from column G (Table 1).

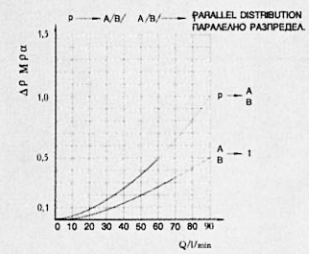
ЗАЯВКА НА КАПАК НАЧАЛЕН 346 – PK/1G означава:
Капак начален със знак за заявка „1“ и размери на присъединителните отвори P и T – 3/8" от колона G на Таблица 1.

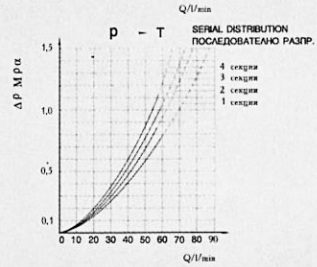
SPOOL SECTION (SINGLE- AND DOUBLE-ACTIING) СЕКЦИЯ ПЛУНЖЕРНА (ЕДНО И ДВОЙНОДЕЙСТВАЩА) TABLE 2 ТАБЛИЦА 2

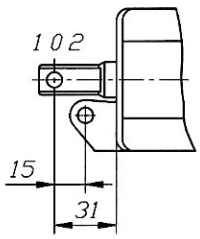
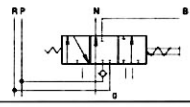
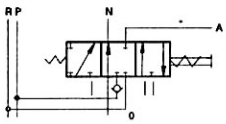
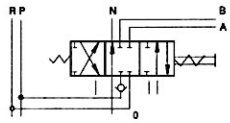
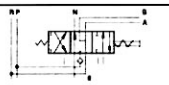
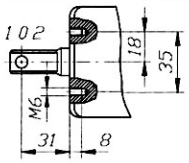
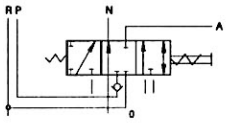
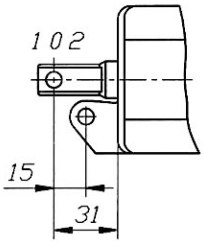
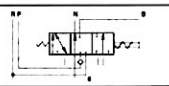
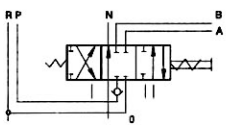
Characteristics Δp=f(Q) viscosity 35 mm²/s and temperature 50°C

Характеристики Δp=f(Q при вискозитет 35 mm²/s и температура 50°C.





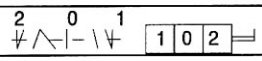
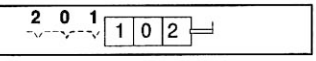
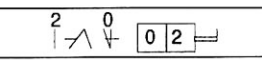
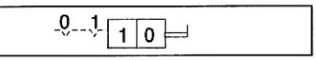
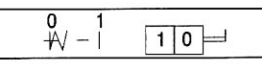
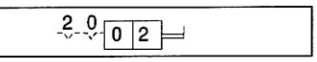
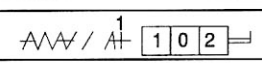
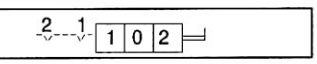
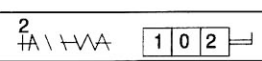


CODE ЗНАК	INDEX ИНДЕКС	ADDITIONAL CHARACTERISTICS ДОПЪЛНИТЕЛНИ ОСОБЕНОСТИ CONNECTING OUTLETS A AND B ПРИСЪЕДИНИТ. ОТВ. A И B „M“	„G“	WAY OF THE SPOOL DRIVING НАЧИН НА ПРИВЕЖД. В ДЕЙСТВ. НА ПЛУНЖ.	WORKING LIQUID DISTRIBUTION РАЗПР. НА РАБ. ТЕЧНОСТ	DISTRIBUTION SCHEME СХЕМА НА РАЗПРЕДЕЛЕНИЕ
D Д	12070	18x1,5	3/8"		parallel паралелно	
R Р	12071	18x1,5	3/8"		parallel паралелно	
P П	12075	22x1,5	1/2"		parallel паралелно	
J Ж	12080	18x1,5	3/8"		parallel паралелно	
K К	12083	22x1,5	1/2"		parallel паралелно	
E Е	13098	22x1,5	1/2"		parallel паралелно	
Jy Жу	12998	18x1,5	3/8"		parallel паралелно	as 12080 kamo 12080
Bn Бн	12074	22x1,5	1/2"		serial последователно	
B Б	12072	18x1,5	3/8"		serial последователно	
W В	12073	18x1,5	3/8"		serial последователно	
Bc Бс	12991	22x1,5	1/2"		serial последователно	as 12074 kamo 12074
Bp Бп	13091	18x1,5	3/8"		serial последователно	
Y Ю	12081	18x1,5	3/8"		serial последователно	
C С	12087	18x1,5	3/8"	as 12074 kamo 12074	serial последователно	

БЪДЕЩНОСТ
Акционерно Дружество

NOTE: The chosen code from Table 3 is written down after each section.
ЗАБЕЛЕЖКА: Изписва се избрания код от Таблица 3 след кода на всяка секция.
Example: – K8, Y1 etc.
Section order: PX 346 – Y1 means:
Section Y with centering code 1 (Table 3) with outlets A and B – M 18x1,5
Пример: – K8, Ю1 и др.
Заявка на секции: РХ 346 – Ю1/М означава:
Секция „Ю" с центриране код „1" (Табл. 3) с отвори А и В – М 18x1,5

WAYS OF SPOOL CENTERING AND FIXING – TABLE 3
НАЧИН НА ФИКСИРАНЕ И ЦЕНТРИРАНЕ НА ПЛУНЖЕРА – ТАБЛИЦА 3

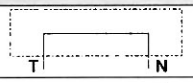
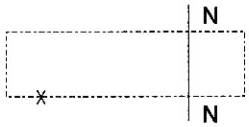
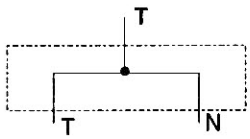
CODE КОД	SPOOL CENTERING ЦЕНТРИРАНЕ НА ПЛУНЖЕРА	CODE КОД	SPOOL CENTERING ЦЕНТРИРАНЕ НА ПЛУНЖЕРА
1		8	
4		9	
5		10	
6		11	
7			

END COVER ORDER: PX 346 – KK3/M means: End cover code 3 (Table 4) with outlets T 27x2 from column M.

ЗАЯВКА НА КАПАК КРАЕН: РХ 346 – КК3/М означава:
Капак РК 1 с код „3" (Табл. 4) с отвор Т 27x2 от колона „М"

END OVER КАПАК КРАЕН

TABLE 4 ТАБЛИЦА 4

CODE ЗНАК	TYPE ТИП	INDEX ИНДЕКС	CONNECTING OUTLETS ПРИСЪЕДИНИТЕЛНИ ОТВОРИ „M" N	„M" T	„G" N	„G" T	DESIGNATION УСЛОВНО ОЗНАЧЕНИЕ
1	KK 1	12060	–	–	–	–	
2	KK 2	12061	18x1,5	–	1/2"	–	
5	KK 5	12065	27x2	–	3/4"	–	
6	KK 6	12066	22x1,5	–	1/2"	–	
3	KK 3	12063	–	27x2	–	3/4"	
4	KK 4	12064	–	18x1,5	–	1/2"	
7	KK 7	12067	–	22x1,5	–	1/2"	

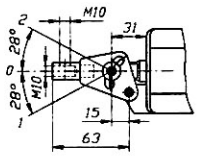
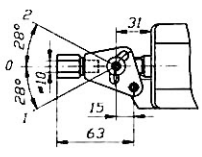
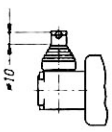
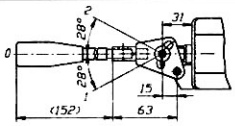
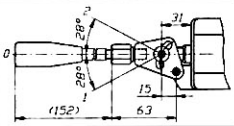
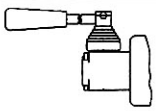
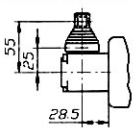
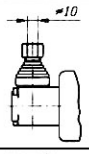
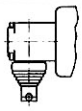
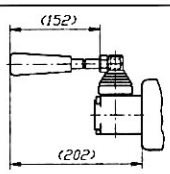
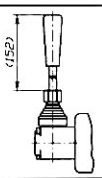
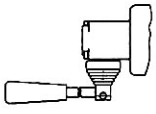
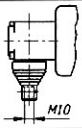
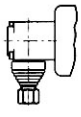
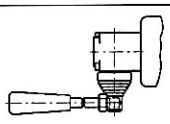
NOTE: The use of symbols M or G in an order of a front cover, a section or an end cover means that the connecting dimensions of the outlets will be performed with dimensions given in columns in tables 1, 2, 4.
When ordering elements or directional control valves with dimensions that differ from those in columns M and G in tables 1, 2, 4 the dimensions are written down after the letter designation and the perfomance becomes special.

ЗАБЕЛЕЖКА: Използването на символите „М" или „G" при заявка на капак начален, секция или капак краен означава, че присъединителните размери на отворите ще бъдат изпълнени в размерите, посочени съответно в колони „М" или „G" на Таблици 1, 2, 4.
При заявка на елементи или разпределители с размери, различни от тези в колони „М" или „G" на Таблици 1, 2, 4 те се изписват задължително след буквеното означение и изпълнението става специално.

ORDER OF A SECTION WITH DRIVING FROM TABLE 5
EXAMPLE: RH 346 – Y1/M/Y means:
Section Y with spool centering code 1 (Table 3) with connecting outlets A and B – thread M18x1,5 and driving of the spool code Y (Table 5).
ЗАЯВКА НА СЕКЦИЯ С КОМАНДВАНЕ ОТ ТАБЛ. 5.
ПРИМЕР: РХ 346 – Ю1/М/У означава:
секция „Ю" с центриране на плунжера код „1" (Табл. 3) с присъединителни отвори А и В – резба М 18x1,5 и управление на плунжера код „у" (Табл. 5).

SPOOLS CONTROL УПРАВЛЕНИЕ НА ПЛУНЖЕРА

TABLE 5 ТАБЛИЦА 5

CODE КОД	WITH THREAD С РЕЗБА	CODE КОД	WITH CANGE С ЦАНГА	CODE КОД	WITH CANGE С ЦАНГА
Z		Y		Ki	
Z1		Y1		KI 1	
KZ		KY		KI 0	
KZ1		KY1		KI 10	
KZ0		KY0			
KZ10		KY10			
—	WITHOUT LEVER SYSTEM (БЕЗ ЛОСТОВА СИСТЕМА)				

БЪДЕЩНОСТ
Акционерно Дружество

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE PX 348

РАЗПРЕДЕЛИТЕЛ ХИДРАВЛИЧЕН С РЪЧНО УПРАВЛЕНИЕ, ТИП РХ 348

TECHNICAL DATA
ТЕХНИЧЕСКИ ДАННИ

Rated pressure P, A, B (T) Номинално налягане в отвори P, A, B (T)	20 (3) MPa
Rated flow Номинален дебит	30 l/min
Working liquid – hidraulic oils with the following characteristics: Работна течност – хидравлични масла с показатели	
– viscosity вискозитет	10÷400 mm^2/s
– degree of filtration степен на филтрация	25 μm
– temperature температура	-20÷80°C
Ambient temperature Температура на околната среда	-20÷60°C
Maximum flow, see the characteristics internal leakage, at $\Delta p = f(Q)$ Вътрешни обемни загуби при p = 12 MPa и вискозитет 35 mm/s	
– for valve section – за клапанна секция	to 1,2 sm^3/min
– for spool sections – за плунжерна секция	to 18 sm^3/min

GENERAL DESCRIPTION
The directional control valve type PX 348 is designated to control the direction of the working liquid flow between the generators of pressurized flow (hydraulic pumps), consumers of such a flow (hydraulic cyllinders, etc.) and the tank.

ПРЕДНАЗНАЧЕНИЕ
Разпределител хидравличен тип РХ 348 служи да управлява посоката на движение на работната течност между генераторите на напорен поток /хидравлични помпи/, потребителите на напорен поток /хидравлични цилиндри и др./ и резервоара.

CONSTRUCTION
The directional control valve is a section type with manual operaion. It provides parallel distribution of the working liquid and directs flow to the tank at non-actuated sections. It comprises a front cover with built-in adjustable or non-adjustable pressure relief valve, a combination of single-acting (valve or spool) and double-acting (spool) three-position sections (maximum eight numbers) and end cover.

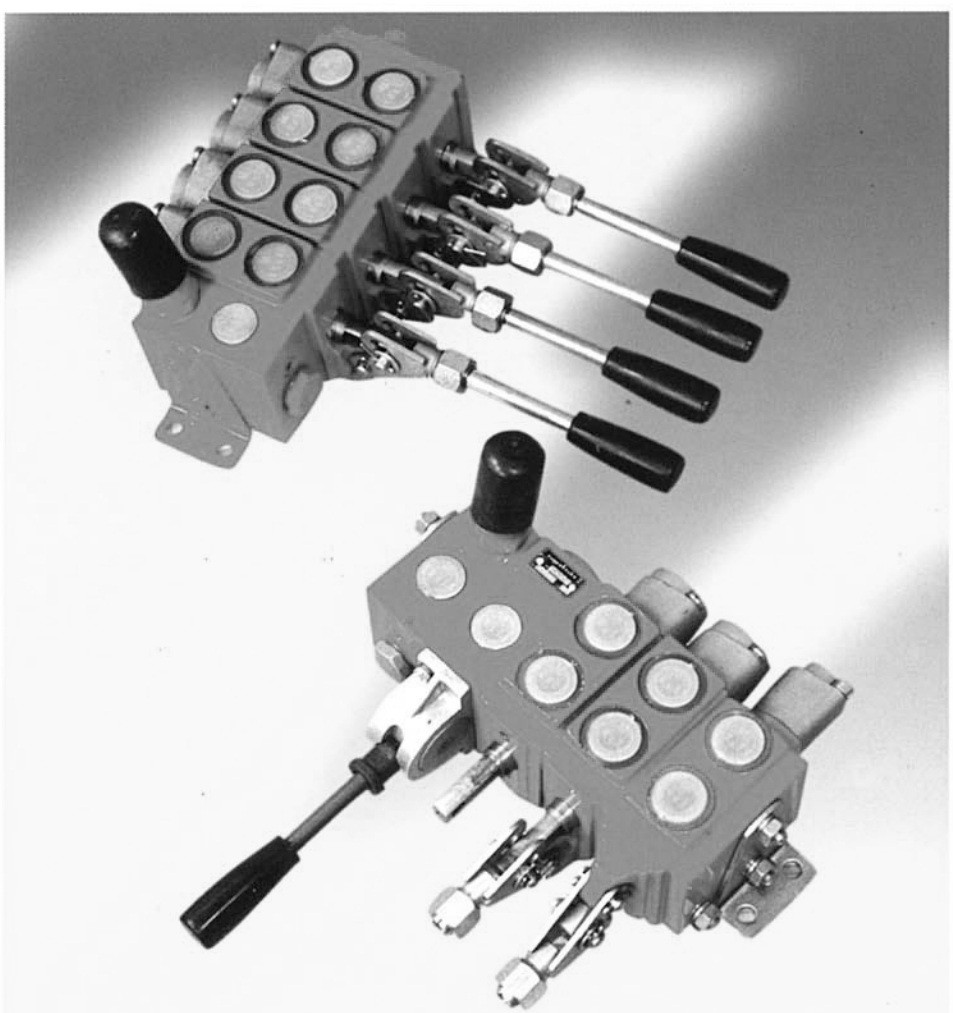
КОНСТРУКЦИЯ
Разпределител РХ 348 е от батериен тип, с ръчно управление. Осигурява паралелно разпределение на работната течност и директното ѝ протичане към резервоара при незадействувани секции. Състои се от начален капак с вграден предпазен клапан, комбинация от едно и двойнодействуващи тришозиционни секции /до 8 броя/ и краен капак.

MOUNTING
Tne directional control valve is mounted by four bolts M8.

ЗАКРЕПВАНЕ
Закрепването на разпределителя към мястото на монтажа се извършва с четири болта М8.

CONNECTION
To the pipelines of the hydraulic system by means of threaded outlets M18 x1,5.

ПРИСЪЕДИНЯВАНЕ
Присъединяването на разпределителя към хидравличната система е с резбови отвори М 18x1,5 /3,8"/.

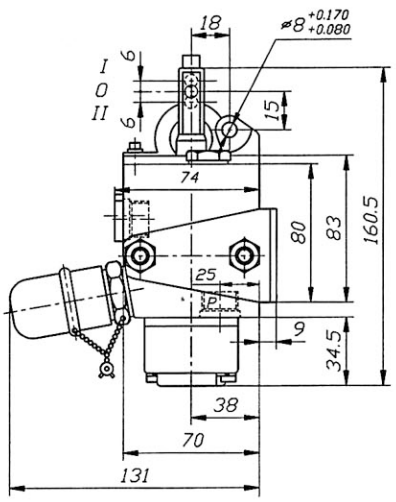


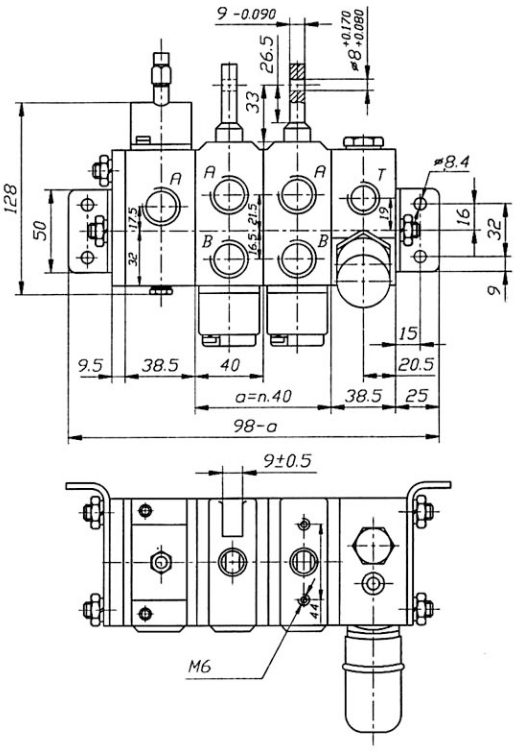
EXAMPLE: 348 – 2IIM means: hydraulic directional control valve 348, with front cover – 2 and two spool sections „I“, one section valve type „M“.

ПРИМЕР: РХ 348 – 2 ΛΛМ / IIМ означава: разпределител хидравличен, тип 348, начален капак „2“ /Табл.1/, два броя секции плунжерни „Λ“ („Т“) /Табл.3/ един брой секция клапанна „М“ /Табл.2/.

EXAMPLE: RH 348 – 2 LF1M means: directional hydraulic control valve, type 348, front cover 2 – Table 1, spool section L – Table 3, flow separator F1 – Table 4, valve section M – Table 2. The flow separator F from Table 4 is mounted between the sections in order requested by the customer and it provides the requested amount of flow to the sections located before the separator. The flow separator is designed in two variants – Table 4: with adjustable flow F1 and with built-in blend, providing the corresponding flow amount through it self F2, F3, F4, F5.

ПРИМЕР: РХ 348 – 2 ΛF1M означава: разпределител хидравличен, тип 348, начален капак „2“ /Табл.1/, секция плунжерна „Λ“ /Табл.3/, отделител на дебит „F1“ /Табл.4/, секция клапанна „М“ /Табл.2/. Отделителят на дебит се изпълнява в два варианта /Табл.4/: с регулируем дебит F1 и с вградена бленда, осигуряваща съответно количество дебит през себе си F2, F3, F4, F5.





HOW TO ORDER
НАЧИН НА ЗАЯВКА

РХ 348 2 ΛΛМ

VARIANT I – without flow separator
ВАРИАНТ I – без отделител на дебит

Hydraulic directional control valve
Разпределител хидравличен

type тип на разпределителя

Ordering code of the front cover – Table 1
Вид на началния капак – Табл. 1

Code for the chosen sections – Table 2; 3
Вид и последователност на секциите – Табл.2; 3 (до 8 броя)

РХ 348 2 Λ F1 М

VARIANT II – with built-in flow separator
ВАРИАНТ II – с вграден отделител на дебит (F)

Hydraulic directional control valve
Разпределител хидравличен

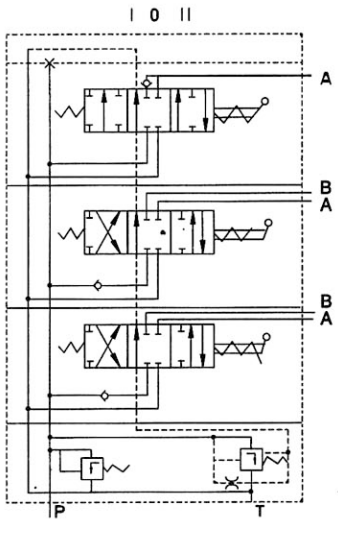
type тип на разпределителя

Ordering code of the front cover – Table 1
Вид на началния капак – Табл. 1

Code for the chosen sections – Table 2; 3 before the flow separator
Вид на секциите – Табл.2; 3 преди отдел. на дебит

Flow separator – Table 4
Отделител на дебит – Табл.4

Code of the chosen sections – Table 2; 3 after the flow separator
Вид на секциите по Табл.2; 3 след отделителя на дебит



NOTE: On requests the directional control valve with sections with cyrrilic and latin designation, is taken only the one (on choice).

ЗАБЕЛЕЖКА: При заявка на разпределител със секция, чието означение е на кирилица и латиница, се работи с едното означение по избор.

HOW TO ORDER: PX 348 – KH...
Front cover code – Table 1

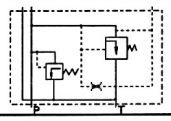
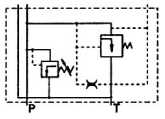
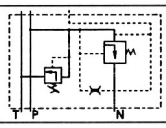
НАЧИН НА ЗАЯВКА НА КАПАК НАЧАЛЕН: PX 348 – KH ...
Код на началния капак Табл.1

EXAMPLE: PX 348 – KH3 means: Front cover with code 3 – Table 1 for a directional control valve 348.

ПРИМЕР: PX 348 – KH3 означава: Капак начален, със знак за зявка „3" /Tabl.1/ за разпределител PX 348

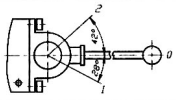
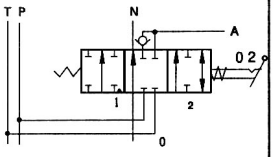
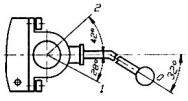
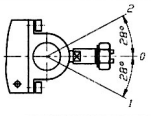
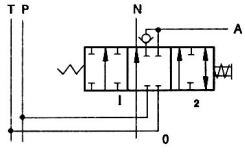
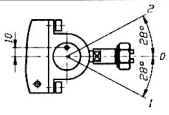
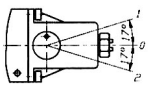
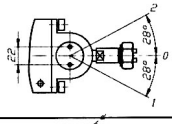
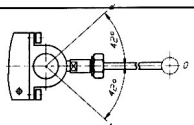
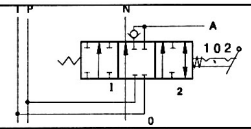
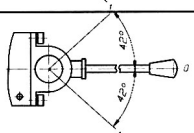
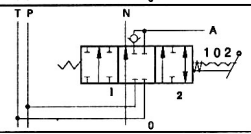
FRONT COVER
КАПАК – НАЧАЛЕН

TABLE 1
ТАБЛИЦА 1

DESIGNATION ЗНАК ЗА ЗАЯВКА	INDEX ИНДЕКС	ADJUSTMENT RANGE MPa ОБХВАТ НА РЕГУЛИРАНЕ MPa	GRAPHICAL REPRESENTATION УСЛОВНО ОЗНАЧЕНИЕ
1	120 00	UNADJUSTABLE /15 MPa/ НЕРЕГУЛИРУЕМ /15 MPa/	
2	120 06	7 – 18	
3	120 07	4 – 10	
4	120 08	5 – 12	
5	120 09	14 – 16	
6	128 90	7 – 18	

SINGLE-ACTING SECTION
СЕКЦИЯ ЕДНОДЕЙСТВУВАЩА КЛАПАННА

TABLE 2
ТАБЛИЦА 2

DESIGNATION ЗНАК ЗА ЗАЯВКА	INDEX ИНДЕКС	TYPE OF THE LEVER SYSTEM ВИД НА ЛОСТОВАТА С-МА	DISTRIBUTION SCHEME AND FIXING СХЕМА НА РАЗПРЕДЕЛ. И ФИКСИРАНЕ	OTHER SPECIALITIES ДРУГИ ОСОБЕНОСТИ
T	120 10			
X	120 11			
Ш /C_H/	120 14			
P	120 15			WITH EL. CONTROL PLUG С ЩИФТ ЗА ЕЛ. УПРАВЛЕНИЕ
M	120 16			WITH EL. CONTROL PLUG С ЩИФТ ЗА ЕЛ. УПРАВЛЕНИЕ
C	120 17			WITH 2 EL. CONTROL PLUGS С 2 ЩИФТА ЗА ЕЛ. УПРАВЛ.
A	120 18			
N	120 19			

HOW TO ORDER SECTION:
PX 348 – section ...
Ordering code – Table 2, 3

НАЧИН НА ЗАЯВКА НА СЕКЦИЯ: PX 348 – Секция ...
Знак за заявка – Табл. 2, 3

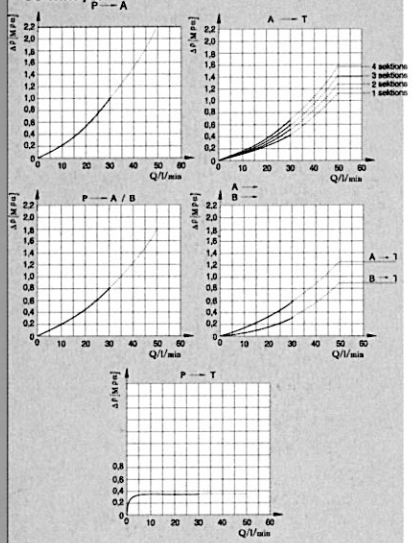
EXAMPLE: PX 348 – section I means: Double-acting section „I" /Table 3/ for the directional control valve PX 348

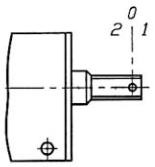
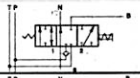
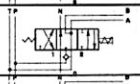
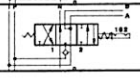
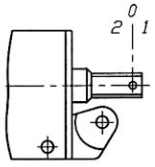
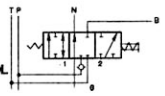
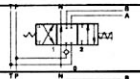
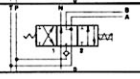
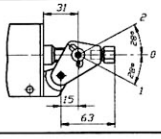
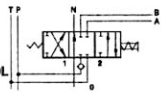
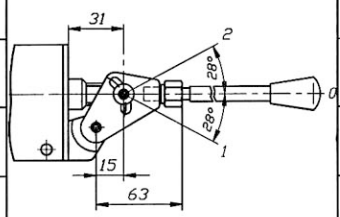
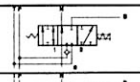
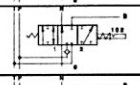
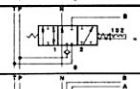
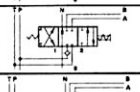
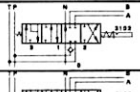
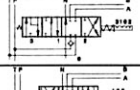
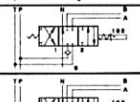
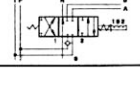
ПРИМЕР: PX 348 – Секция Л означава: Секция двойнодействуваща „Л" /Табл. 3/ за разпределител PX 348.

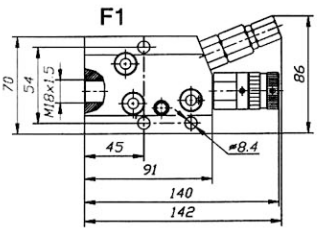
SPOOL SECTION
СЕКЦИЯ ПЛУНЖЕРНА

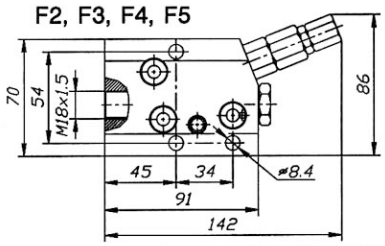
TABLE 3
ТАБЛИЦА 3

The perfomances of Δp=f(Q) at oil with viscosity 35 mm²/s.
Характеристики Δp=f(Q) при вискозитет 35 mm²/s.



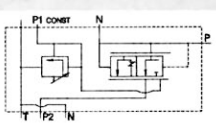
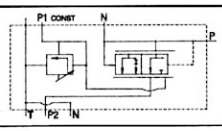
DESIGNATION ЗНАК ЗА ЗАЯВКА	INDEX ИНДЕКС	CHARACTERISTICS FITTING ХАРАКТЕРНИ ОСОБЕНОСТИ ЗАХВАЩАНЕ	OTHER ДРУГИ	DISTRIBUTION SCHEME СХЕМА НА РАЗПРЕДЕЛЕНИЕ
B	120 21			
Л(I)	120 33			
H	120 35			
Б(U)	120 20			
O	120 22		WITH STRETCHED SPOOL С УДЪЛЖЕН ПЛУНЖЕР	
Ж(J)	120 30			
Ю(Y)	120 31			
K	120 32			
Д(D)	120 34		WITH STRETCHED SPOOL С УДЪЛЖЕН ПЛУНЖЕР	
Q	120 23			
W	128 94			
V	128 95			
R	120 36			
L 12	120 37			
L 13	120 37-01			
S	128 97			
G	128 98			





TRANSITIONAL SECTION WITH FLOW SEPARATOR
МЕЖДИННА СЕКЦИЯ С ОТДЕЛИТЕЛ НА ДЕБИТ

TABLE 4
ТАБЛИЦА 4

DESIGNATION ЗНАК ЗА ЗАЯВКА	INDEX ИНДЕКС	Q L/min Q L/min	P /bar/ P /bar/	CONSTRUCTIONAL CHARACTERISTICS КОНСТРУКТИВНИ ОСОБЕНОСТИ	SYMBOL DESIGNATION СИМВОЛИЧНО. ОЗНАЧЕНИЕ
F1	97 00 00	3 – 13	30 – 200	REGULATED FLOW РЕГУЛИРАН ДЕБИТ	
F2 F3 F4 F5		3 6 9 12		CONSTANT FLOW ПОСТОЯНЕН ДЕБИТ	

BADESTNOST
Joint Stock Co.

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE P40, P40R

РАСПРЕДЕЛИТЕЛЬ ГИДРАВЛИЧЕСКИЙ РУЧНОГО УПРАВЛЕНИЯ, ТИП P40, P40R

ТЕХНИЧЕСКИЕ ДАННЫЕ
TECHNICAL DATA

Номинальный дебит	40 l/min
Rated flow	40 l/min
Номинальное давление	
Rated pressure	
– на выходах P, A, B и N	25 MPa
– in outlets P, A, B and N	25 MPa
– на выходе T	10 MPa
– in outlets T	10 MPa
Диапазон давлений	5÷25 MPa
The control pressure range	5÷25 MPa
Рабочая жидкость – гидравлические масла с показателями	
Working liquid – hydraulic oils characteristics	
– кинематическая вязкость	10÷400 mm^2/s
– kinematic viscosity	10÷400 mm^2/s
– степень фильтрации	25 μm
– degree of filtration	25 μm
– температура	
– temperature	
– нормальный вариант	–20÷+80°C
– normal fulfiment	–20÷+80°C
– морозоустойчивый вариант	–40÷+60°C
– cold resistant fulfiment	–40÷+60°C
Температура окружающей среды	
Ambient temperature	
– нормальный вариант	–20÷+60°C
– normal fulfiment	–20÷+60°C
морозоустойчивый вариант	–40÷+40°C
cold resistant fulfiment	–40÷+40 °C

НАЗНАЧЕНИЕ

Распределитель гидравлический P40 служит для пуска, остановки и контроля за дебитом рабочей жидкости между генераторами напорного потока (гидравлические насосы), потребителями рабочего напорного потока (гидравлические цилиндры, моторы и др.) и резервуаром.

GENERAL DESCRIPTION

The directional control valve is used for starting, stooping and controlling the working liquid flow between the generators of pressurized flow (hydraulic pumps), the consumers of such a flow (hydraulic cylinders, motors and s.o.) and the tank.

КОНСТРУКЦИЯ

Распределитель гидравлический P40 представляет собой моноблочный распределитель ручного управления. В производстве распределителей имеются варианты с параллельным и последовательным распределением масла.

KONSTRUKTION

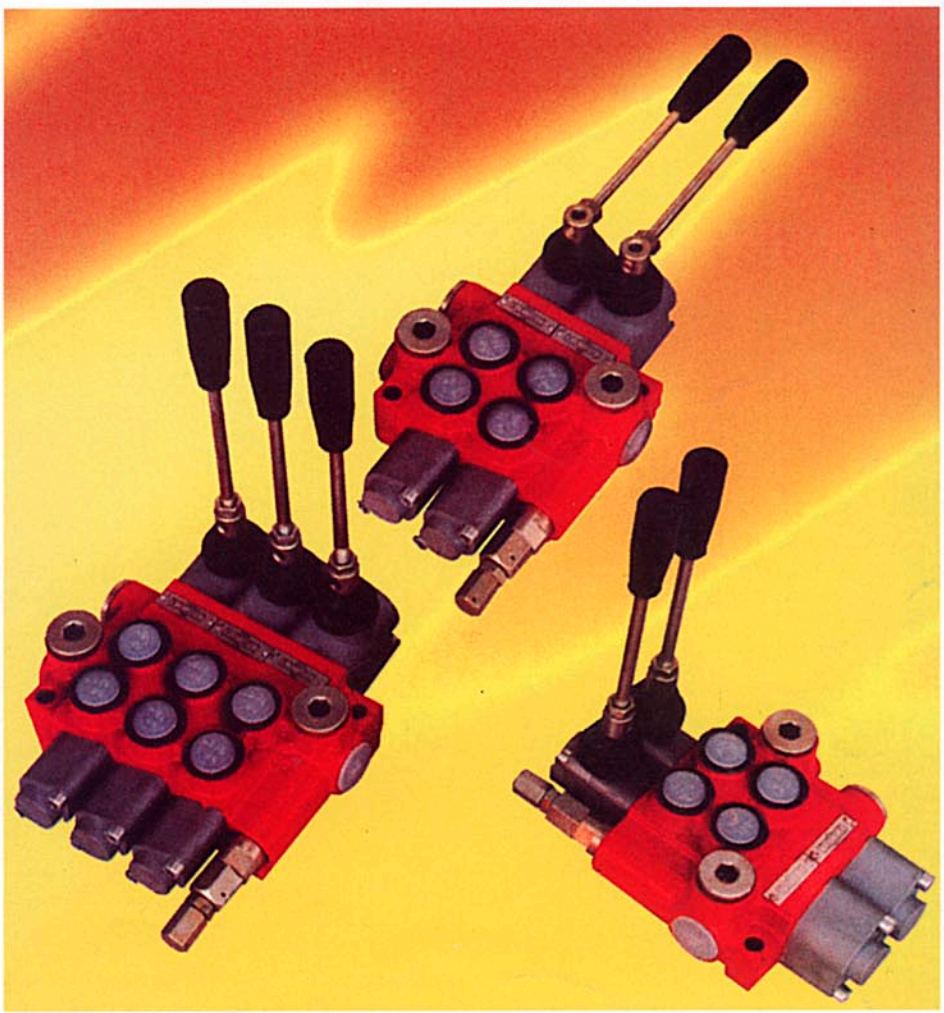
The directional control valve is a monoblock type, manually operated. In production is a variant of working liquid parallel and series distribution.

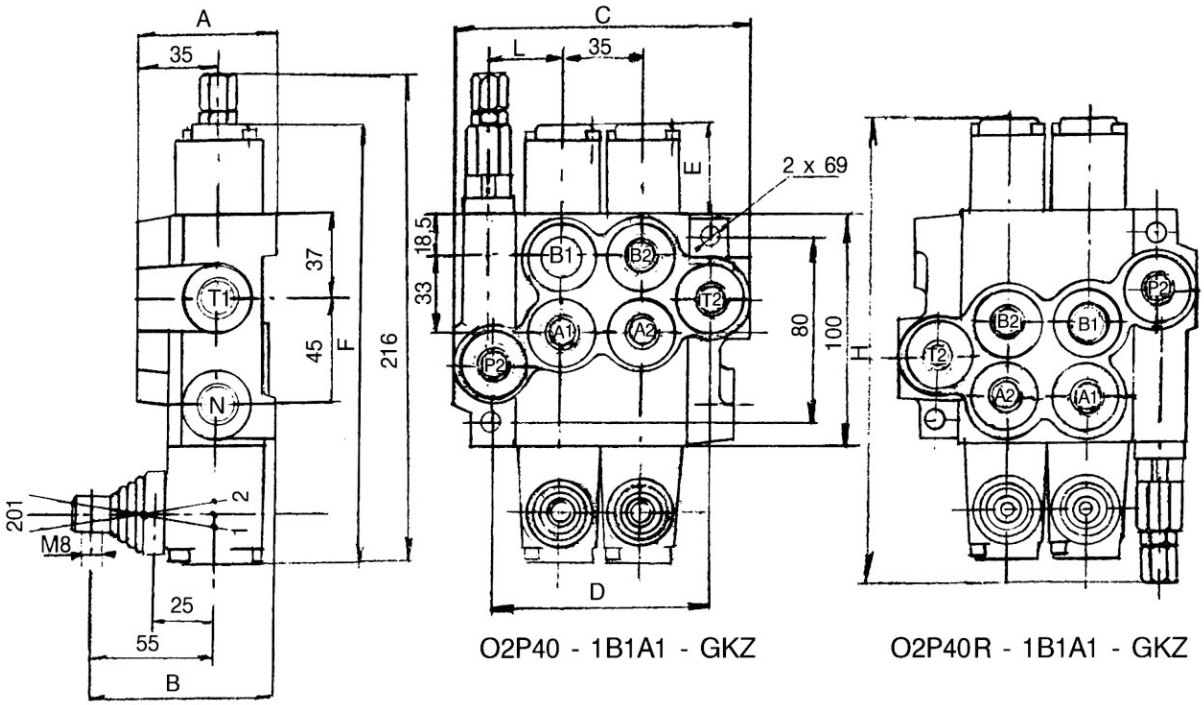
КРЕПЛЕНИЕ

Распределитель крепится к месту монтажа двумя болтами M8.

MOUNTING

The directional control valve is mounted to its proper place by means of two bolts M8.





O2P40 - 1B1A1 - GKZ

O2P40R - 1B1A1 - GKZ

ТАБЛИЦА 1
TABLE 1

	A	B	C	D	L	P1	T1	P2	T2
P40	60	80	85	60	28	+	+	–	–
02P40	60	80	129	97	30	+	+	+	+
03P40	60	80	164	132	30	+	+	+	+
04P40	60	80	199	167	30	+	+	+	+
3P40	68	88	164	132	30	+	+	+	+
4P40	68	88	199	167	30	+	+	+	+

ТАБЛИЦА 2
TABLE 2

ЦЕНТРОВКИ И ФИКСАЦИИ ПЛУНЖЕРА SPOOL CONTROL	E	H	F
1; 4; 5; 6; 7; 8; 9; 10; 11	40	203	193
2; 3	72	235	225

O 2 P40 R – 1 B 1 A 1 – G KZ1 H E C2 – 11

O – у распределителя общий обратный клапан
O – Hydraulic directional control valve with common check valve
– у распределителя отдельные обратные клапаны
– Hydraulic directional control valve with separate check valves

– число плунжеров Табл. 3
– Spools number – Table 3

– Распределитель гидравлический типа P40
– Hydraulic directional control valve – type P40

R – система рычага находится со стороны предохранительного клапана
R – Operation general feature is from the side of the valve
– система рычага находится напротив предохранительного клапана
– Operation general feature is on the opposite side of the valve

распределение масла в распределителе – Табл. 4
Way of working liquid distribution – Table 4

Способ распределения масла через I плунжер – Табл.5
First spool distribution scheme – Table 5

Вид центровки и фиксации плунжера – Табл.6
Way of centering and fixing the spool – Table 6

Способ распределения масла через II плунжер – Табл.5
Second spool distribution scheme – Table 5

Вид центровки и фиксации плунжера – Табл.6
Way of centering and fixing the spool – Table 6

Способ ручного управления – Табл. 10
Operation general feature – Table 10

Особенности управления – Табл. 8
Operation features – Table 8

Возможность монтажа эл.микроключа – Табл. 7
Possibility of incorporating an electric microswitch

Наличие и вид наконечников – Табл. 11
Speciality of working liquid returning

Использованные отверстия P и T – Табл. 12
Connection port in use

Тип резьбы – Табл. 9
Standard threads Table 9

ТАБЛИЦА 3
TABLE 3

КОД CODE	ПЛУНЖЕР SPOOL
P	1
2P	2
3P	3
4P	4

ТАБЛИЦА 4
TABLE 4

КОД CODE	СПОСОБ РАСПРЕДЕЛЕНИЯ ПОТОКА THE WAY OF WORKING LIQUID DISTRIBUTION
1	ПАРАЛЛЕЛЬНОЕ РАСПРЕДЕЛЕНИЕ PARALLEL DISTRIBUTION
2	ПОСЛЕДОВАТЕЛЬНОЕ РАСПРЕДЕЛЕНИЕ SERIES DISTRIBUTION

3P40 – 1A1A1A1...

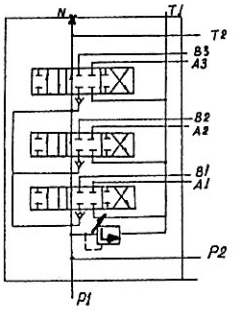
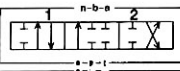
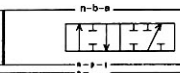
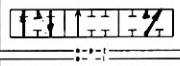
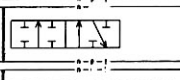
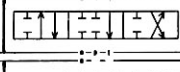
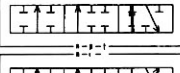
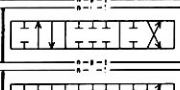
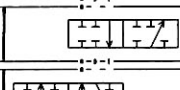
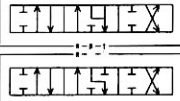
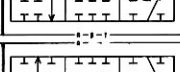
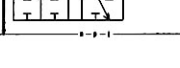
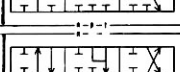
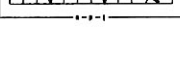
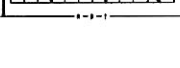


ТАБЛИЦА 5
TABLE 5

КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE	КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE	КОД CODE	ТИП ПЛУНЖЕРА SPOOL TYPE
A		G		Q	
B		H		R	
C		M		S	
D		N		T	
E		O			
F		P			

3P40 – 2A1A1A1...

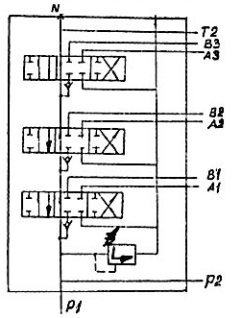
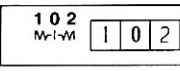
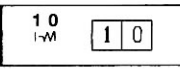
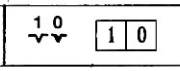
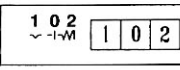
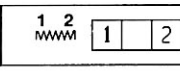
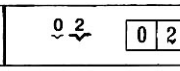
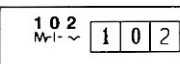
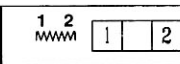
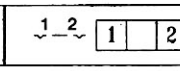
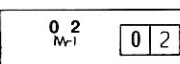
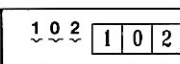


ТАБЛИЦА 6
TABLE 6

КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL	КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL	КОД CODE	УПРАВЛЕНИЕ ПЛУНЖЕРОМ SPOOL CONTROL
1		5		9	
2		6		10	
3		7		11	
4		8			

03P40 – 1A1A1A1...

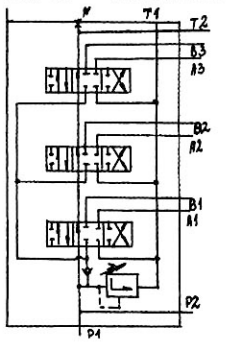
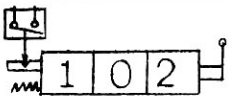
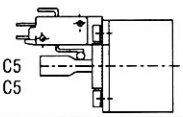
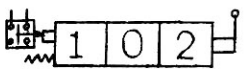
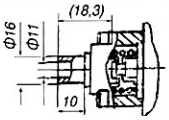


ТАБЛИЦА 7
TABLE 7

КОД CODE	ВОЗМОЖНОСТЬ МОНТАЖА ЭЛ. МИКРОКЛЮЧА POSSIBILITY OF INCORPORATING AN ELECTRIC MICROSWITCH	
E		Микроключ тип "OMRON" – V–165 I C5 Microswitch type "OMRON" – V–165 I C5 
E6		Для микроключ тип ППР3 Microswitch type ППР3 

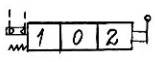
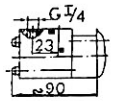
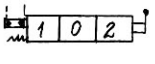
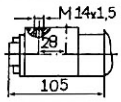
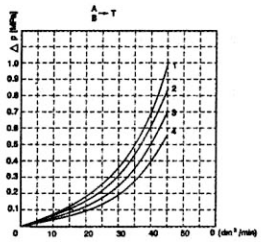
КОД CODE	ОСОБЕННОСТИ УПРАВЛЕНИЯ OPERATION FEATURES		
P		Пневмоническое управление Pneumatic operation 	Давление Pressure 6 bar
H		Гидравлическое управление Hydraulic operation 	Давление Pressure 6÷20 bar

ТАБЛИЦА 8
TABLE 8

ТАБЛИЦА 9
TABLE 9

КОД CODE	СТАНДАРТНЫЕ ВИДЫ РЕЗЬБЫ STANDARD TREADES	
	A . B	P . T . N
M	M 18 X 1.5	M 22 X 1.5
G	G 3/8"	G 1/2"



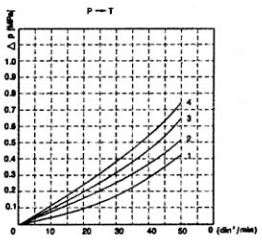
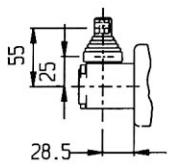
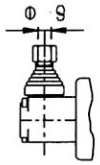
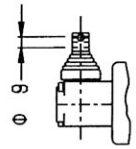
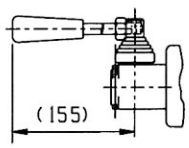
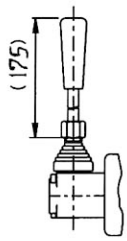
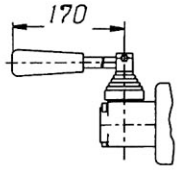
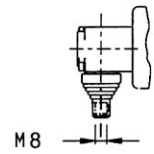
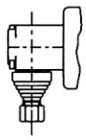
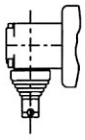
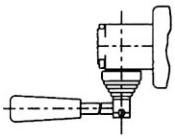
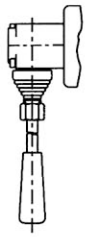
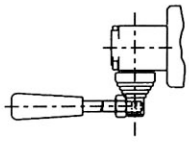


ТАБЛИЦА 10
TABLE 10

БЕЗЛОСТОВАЯ СИСТЕММА / WITHOUT LEVER SYSTEM					
КОД CODE	КОД CODE	КОД CODE	КОД CODE	КОД CODE	КОД CODE
KZ		KY		KI	
KZ1		KY1		KI1	
KZ0		KY0		KI0	
KZ01		KY01		KI01	

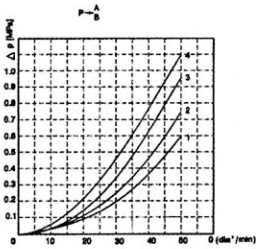


ТАБЛИЦА 11
TABLE 11

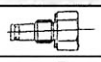
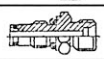
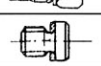
КОД CODE	ВИД НАКОНЕЧНИКА / LIQUID RETURNING	
C	Закрытый центр Closed center	
C1	Наличие наконечника высокого давления типа 1 Carry over type 1	
C2	Наличие наконечника высокого давления типа 2 Carry over type 2	
	Отверстие “N” обработано для наконечника carry over и закупорено пробкой Carry over	
X	Без выхода “N” Without “N”	

ТАБЛИЦА 12
TABLE 12

КОД CODE	ИСПОЛЬЗОВАННЫЕ ПРИСОЕДИНИТЕЛЬНЫЕ ОТВЕРСТИЯ CONNECTION PORTS IN USE
11	P1, T1
12	P1, T2
21	P2, T1
22	P2, T2

ДАННЫЕ, ОТЛИЧАЮЩИЕСЯ ОТ УКАЗАННЫХ В ПРОЕКТЕ, ДОГОВАРИВАЮТСЯ С ПРОИЗВОДИТЕЛЕМ
FOR ALL OTHER DETAILS, PLEASE CONTACT FACTORY

БЪДЕЩНОСТ
Акционерно Дружество

HYDRAULIC DIRECTIONAL CONTROL VALVE TYPE PX 80

РАЗПРЕДЕЛИТЕЛ ХИДРАВЛИЧЕН С РЪЧНО УПРАВЛЕНИЕ, ТИП РХ 80

TECHNICAL DATA
ТЕХНИЧЕСКИ ДАННИ

Rated flow Номинален дебит	80 l/min
Rated pressure Номинално налягане	
– in the outlets P, A, B and N в изводи P, A, B и N	25 MPa
– in outlet T в извод T	3 MPa
The control pressure range of the main relief valve Диапазон на регулиране на налягането	3÷25 MPa
Working liquid – hydraulic oils characteristics: Работна течност – хидравлични масла с показатели	
– kinematic viscosity кинематичен вискозитет	10÷400 mm^2/s
– degree of filtration степен на филтрация	25 μm
– temperature температура	-25÷60 °C

GENERAL DESCRIPTION
The directional control valve is designed for starting, stopping and handling the working liquid flow between the generators of pressurized flow (hydraulic pumps), the consumers of such a flow (hydraulic cyllinders and s. o.) and the tank, in the hydraulic systems of mobile machines.

ПРЕДНАЗНАЧЕНИЕ
Хидравличният разпределител РХ 80 служи за пускане в ход, спиране и контролиране дебита на работната течност между генераторите на напорен поток (хидравличните помпи), потребителите на напорен поток (хидравлични цилиндри, мотори и др.) и резервоара.

CONSTRUCTION
The directional control valve is monoblock type, manually operated, allowing two variants of working liquid distribution – parallel and serial. The charging line of each spool is equipped with check valve, preventing against return of working liquid in case of pump or motor accidental stopping. The primary line of the directional control valve has a built-in main relief valve with indirect operation. The directional control valve can be equipped with end fitting of high pressure (CARRY OVER). The primary line is connected to the pump with pressure gauge socket.

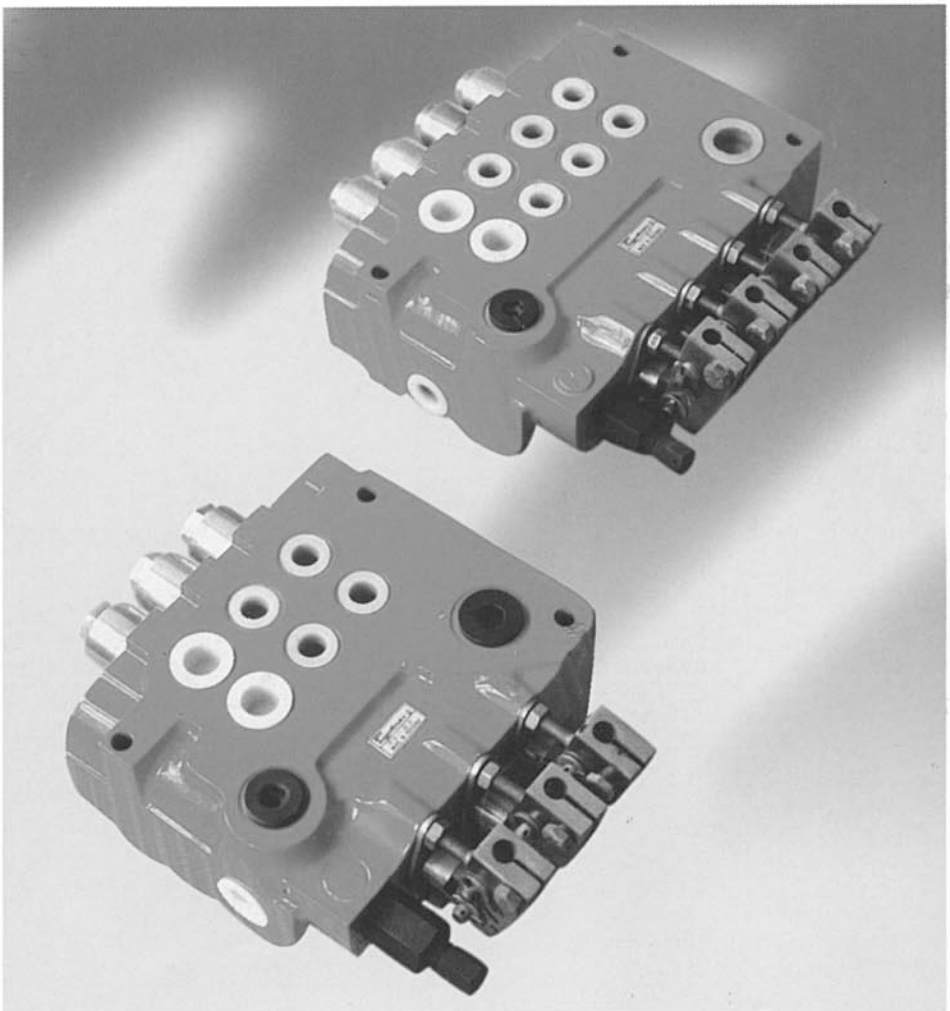
КОНСТРУКЦИЯ
Разпределителят е моноблочен тип с ръчно управление и позволява два вида разпределение на работната течност – паралелно и последователно. Линията, свързана с помпа на всеки плунжер е съоръжена с обратен клапан, предпазващ връщането на работната течност при спиране на помпата или двигателя. Към първичната линия на разпределителя е вграден основен предпазно-преливен клапан. Разпределителят може да бъде съоръжен с накрайник за високо налягане и накрайник за манометър.

MOUNTING
The directional control valve is mounted to its proper place by means of three securing bolts M10.

ЗАКРЕПВАНЕ
Закрепването към мястото на монтаж се осъществява с три болта М 10.

CONNECTION
The connection is performed by threaded outlets P, A, B, T and N.

ПРИСЪЕДИНЯВАНЕ
За присъединяване към хидравличната система служат резбовите отвори P, A, B, T и N.

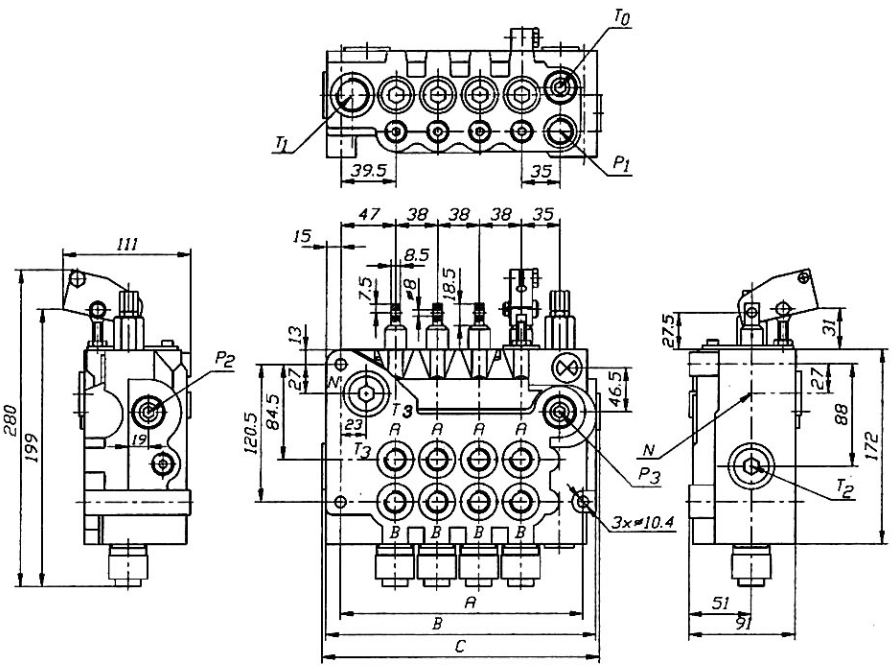


БЪДЕЩНОСТ
Акционерно Дружество

EXAMPLE: PX 80-1BAAA/2T/1/1111M /11 designates a hydraulic directional control valve, type 80, parallel distribution of the working liquid /1/; 4-spools with first spool distribution scheme B; second, third, fourth spool with distribution scheme A; with possibility for incorporating an electric microswitch to each spool /2/; tropical version /T/; manual operation /1/; spring centering of the first, second, third, and fourth spools /1111/ with built-in pressure gauge socket /M/; open center / /; with outlet for pump P_1 and outlet to the tank T_1 /11/.

ПРИМЕР: PX 80-1BAAA/2T/1/1111M /11 означава: разпределител хидравличен, тип PX 80, с паралелно разпределение на работната течност код „1" /Табл.1/, четириплунжерен с първи плунжер със схема на разпределение код „B" /Табл.2/, втори, трети и четвърти плунжери със схема на разпределение код „A" /Табл.2/, с възможност за вграждане на електрически микропревключвател към всеки плунжер код „2" /Табл.3/, тропическо изпълнение код „T" /Табл.4/, ръчно управление код „1" /Табл.5/ пружинно центриране на I, II, III, и IV плунжери код „1" /Табл.6/, с вграден накрайник за манометър код „M" /Табл.7/, отворен център код „ " /Табл.8/, използвани изводи за помпа P1 и извод за резервоар T1 код „11" /Табл.9/

Spool's number Номер на плунжера	3	4
A (mm)	177	215
B (mm)	204	242
C (mm)	212	250
Mass (Kg)	17.2	20.2



HOW TO ORDER
НАЧИН НА ЗАЯВКА

PX 80 1 B A A A / 2 T / 1 / 1111 M /11

Hydraulic directional control valve
Разпределител хидравличен

type 80 mun 80

Way of distribution – Table 1
Вид на разпределение – Табл. 1

First spool distribution scheme – Table 2
Схема на разпределение на 1ви плунжер – Табл.2

Second spool distribution scheme – Table 2
Схема на разпределение на 2ри плунжер – Табл.2

Third spool distribution scheme – Table 2
Схема на разпределение на 3ти плунжер – Табл.2

Fourth spool distribution scheme – Table 2
Схема на разпределение на 4ти плунжер – Табл.2

Possibility of incorporating an electric microswitch – Table 3
Възможност за вграждане на електрически микропревключвател – Табл. 3

Climatic version – Table 4
Климатично изпълнение – Табл.4

General features of operation – Table 5
Особености на управлението – Табл.5

The way of centering, fixing and spool stroke restriction corresponding on the 1st, 2nd, 3rd, 4th spool – Table 6
Вид на центрирането и фиксирането на плунжерите и последователност на включване на общия микропревключвател съответно на 1, 2, 3 и 4 плунжер – Табл.6

Availability of pressure gauge socket – Table 7
Наличие на накрайник за манометър – Табл.7

General feature of working liquid return – Table 8
Особености на връщане на работната течност – Табл.8

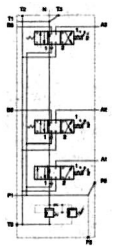
Connection ports in use – Table 9
Използувани присъединителни отвори – Табл.9

Additional features – have to be written after the designation
Допълнителни особености – изписват се след основното означение

TABLE 1
ТАБЛИЦА 1

CODE КОД	WAY OF WORKING LIQID DISTRIBUTION ВИД НА РАЗПРЕДЕЛ. НА РАБ. ТЕЧНОСТ
1	PARALLEL DISTRIBUTION ПАРАЛЕЛНО РАЗПРЕДЕЛЕНИЕ
2	SERIAL – PARALLEL ПОСЛЕДОВАТЕЛНО – ПАРАЛЕЛНО

1



2

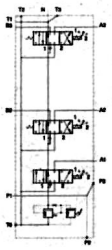


TABLE 2
ТАБЛИЦА 2

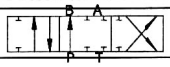
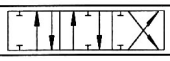
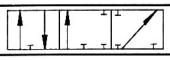
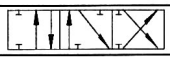
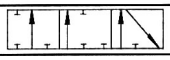
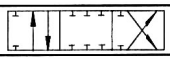
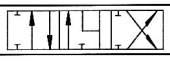
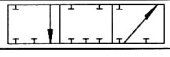
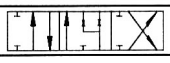
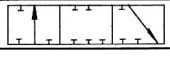
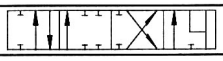
CODE КОД	SPOOLS DISTRIBUTION SCHEMES СХЕМА НА РАЗПРЕДЕЛЕНИЕ	CODE КОД	SPOOLS DISTRIBUTION SCHEMES СХЕМА НА РАЗПРЕДЕЛЕНИЕ
A		M	
B		T	
C		X	
E		Y	
H		Z	
K			

TABLE 3
ТАБЛИЦА 3

CODE КОД	POSSIBILITY OF INCORPORATING AN ELECTRIC MICROSWITCH ВЪЗМОЖНОСТ ЗА ВГРАЖДАНЕ НА ЕЛЕКТРИЧЕСКИ МИКРОПРЕВКЛЮЧВАТЕЛ
1	WITHOUT POSSIBILITY / БЕЗ ВЪЗМОЖНОСТ
2	ELECTRIC MICROSWITCH / ЕЛЕКТРИЧЕСКИ МИКРОПРЕВКЛЮЧВАТЕЛ КЪМ ВСЕКИ ПЛУНЖЕР
3	GENERAL ELECTRIC MICROSWITCH / ОБЩ ЕЛЕКТРИЧЕСКИ МИКРОПРЕВКЛЮЧВАТЕЛ
4	ELECTRICAL MICROSWITCH TO EACH SPOOL AND GENERAL ELECTRIC MICROSWITCH ЕЛЕКТРИЧЕСКИ МИКРОПРЕВКЛЮЧВАТЕЛ КЪМ ВСЕКИ ПЛУНЖЕР И ОБЩ ЕЛЕКТРИЧЕСКИ МИКРОПРЕВКЛЮЧВАТЕЛ

TABLE 4
ТАБЛИЦА 4

CODE КОД	CLIMATIC VERSION КЛИМАТИЧНО ИЗПЪЛНЕНИЕ
	NORMAL VERSION / НОРМАЛНО ИЗПЪЛНЕНИЕ
T	TROPICAL VERSION / ТРОПИЧЕСКО ИЗПЪЛНЕНИЕ
N	COLD RESISTANT VERSION / СТУДОУСТОЙЧИВО ИЗПЪЛНЕНИЕ

TABLE 5
ТАБЛИЦА 5

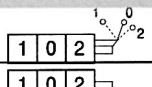
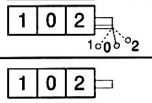
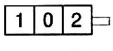
CODE КОД	OPERATION FEATURES ОСОБЕНОСТИ НА УПРАВЛЕНИЕТО	
1	MANUAL OPERATION РЪЧНО УПРАВЛЕНИЕ	
2	MANUAL OPERATION РЪЧНО УПРАВЛЕНИЕ	
3	WITHOUT LEVER SYSTEM БЕЗ ЛОСТОВА СИСТЕМА	

TABLE 6
ТАБЛИЦА 6

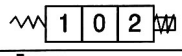
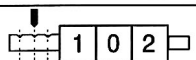
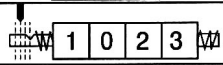
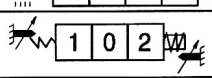
CODE КОД	THE WAY OF SPOOL CENTERING, FIXING AND STROKE RESTRICTION ОСОБЕНОСТИ НА УПРАВЛЕНИЕТО	
1	SPRING CENTERING ПРУЖИННО ЦЕНТРИРАНЕ	
2	FIXING IN POSITIONS 1, 0 AND 2 ФИКСИРАНЕ В ПОЗИЦИЯ 1, 0 И 2	
3	SPRING CENTERING AND FIXING IN POSITION 3 ПРУЖИННО ЦЕНТРИРАНЕ И ФИКСИРАНЕ В ПОЗ. 3	
4	SPRING CENTERING AND VARIABLE STROKE RESTRICTION ПРУЖИННО ЦЕНТРИРАНЕ И ОГРАНИЧАВАНЕ НА ХОДА	

TABLE 7
ТАБЛИЦА 7

CODE КОД	AVAILABILITY OF PRESSURE GAUGE SOCKET НАЛИЧИЕ НА НАКРАЙНИК ЗА МАНОМЕТЪР
	WITHOUT PRESSURE GAUGE SOCKET БЕЗ НАКРАЙНИК ЗА МАНОМЕТЪР
M	WITH PRESSURE GAUGE SOCKET С НАКРАЙНИК ЗА МАНОМЕТЪР

TABLE 8
ТАБЛИЦА 8

CODE КОД	GENERAL FEATURES OF WORKING LIQUID RETURN ОСОБЕНОСТИ НА ВРЪЩАНЕТО НА РАБОТНАТА ТЕЧНОСТ
	OPEN CENTER / ОТВОРЕН ЦЕНТЪР
C	CLOSED CENTER / ЗАТВОРЕН ЦЕНТЪР
C1	WITH BUILT-IN END FITTING TYPE 1 С ВГРАДЕН НАКРАЙНИК ТИП 1
C2	WITH BUILT-IN END FITTING TYPE 2 С ВГРАДЕН НАКРАЙНИК ТИП 2

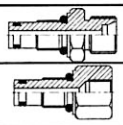


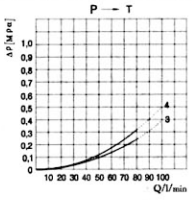
TABLE9
ТАБЛИЦА 9

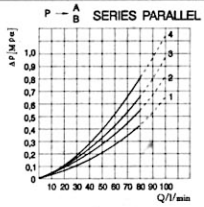
CODE КОД	CONNECTION PORTS IN USE ИЗПОЛЗУВАНИ ПРИСЪЕДИНИТЕЛНИ ОТВОРИ
11	P_1T_1
12	P_1T_2
13	P_1T_3
21	P_2T_1
22	P_2T_2
23	P_2T_3
31	P_3T_1
32	P_3T_2
33	P_3T_3
1	P_1T_2N
2	P_2T_2N
3	P_3T_2N

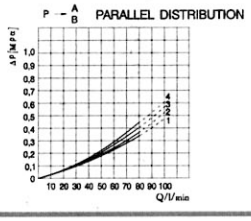
TABLE 10
ТАБЛИЦА 10

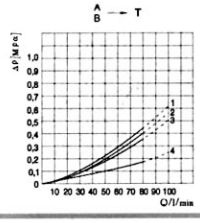
CODE КОД	THREAD VERSIONS OF THE PORTS РЕЗБОВИ ИЗПЪЛНЕНИЯ НА ОТВОРИТЕ		DESCRIPTION ЗАБЕЛЕЖКА
P	M22x1,5; (M24x1,5)		The concrete version or variants on specific requests have to be written after the designation. Други варианти на резбови изпълнения на отворите се договарят допълнително.
A,B	M22x1,5; M18x1,5; (M20x1,5)		
T	M27x2; M26x1,5; (M24x1,5)		
N	VERSION / ВАРИАНТ C1	M27x2	
	VERSION / ВАРИАНТ C2	M22x1,5	

The characteristics of $\Delta p=f(Q)$ at working liquid of kinematic viscosity 35 mm^2/s and temperature of 50°C.
Характеристики $\Delta p=f(Q)$ при работна течност с кинематичен вискозитет 35 mm^2/s и температура 50°C.

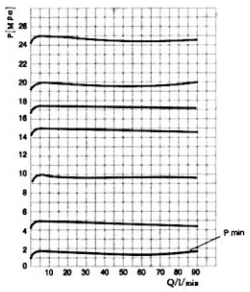








The main relief valve characteristic $p=f(Q)$ at working liquid with kinematic viscosity of 35 mm^2/s и температура 50°C.
Характеристики $p=f(Q)$ на основния предпазен клапан при работна течност с кинематичен вискозитет 35 mm^2/s и температура 50°C.



TYPE RP80

TECHNICAL DATA
TECHNISCHE DATEN
ТЕХНИЧЕСКИЕ ДАННЫЕ

Rated Flow Nennfoerderstrom Номинальный расход	l/min	80
Rated pressure Nenndruck Номинальнное давление	bar	250
Nominal port size Nennweite Условный проход	mm	Ш12
Working liquid: hydraulic oils with parameters: Betriebsfluessigkeit: hydraulische Oele mit naechsten Kennziffern: Рабочая жидкость: гидравлические масла с показателями:		
viscosity Viskositaet вязкость	mm^2/sec	15...300
viscosity recommended Viskositaet empfohlener вязкость рекомендуемая	mm/sec	20...80
temperature Temperatur температура	°C	-20...+80
degree of filtration Filtrationsgrad тонкость фильтрации	mm	0.025

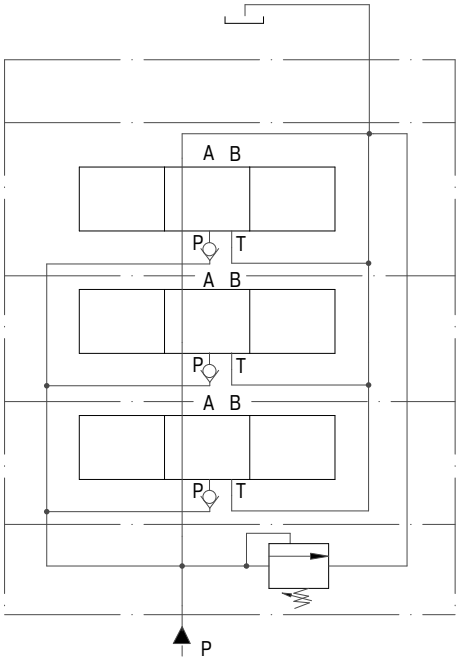
Directional control valve RP80 is a section type,with manual operation. It provides parallel or tandem distribution of the working liquid and its direct flow to the tank without activating the sections.
It consists of inlet cover with integrated reliief valve, a combination of double-acting sections /up to 10pcs/ and outlet cover. Each section is with a integrated check valve at the canal P.
The sections are designed with symmetrically located canals.
The sectional control valve is fixed to the place of mounting with four bolts M8.
The connection of the sectional control valve to the hydraulic system is made by threaded ports G1/2; M...

Wegeventil RP80 ist Sektiontype, mit Handbetaetigung. Es sichert Parallel oder Reihenverteilung der Betriebsfluessigkeit und deren direkte Stroemung zum Behaelter bei unbetaetigten Sektionen.
Es besteht aus einem Vorderdeckel mit eingebautem Druckbegenzungsventil, einer Kombination von doppelwirkenden Sektionen/max 10 St./ und einem Hinterdeckel. Jede Section hat ein eingebautes Rrueckschlagventil am Kanal P.
Die Sektionen sind mit symmetrisch angeordneten Kanaelen ausgefuehrt.
Die Befestigung des Sektion-Wegeventil an die Baustelle erfolgt durch vier Bolzen M8.
Das Anschliessen des Sektion-Wegeventil zum Hydraulikschema erfolgt mittels Gewindebohrungen G1/2; M...

Распределитель RP80 секционного типа, ручным управлением. Обеспечает параллельное или последовательное распределение рабочей жидкости и директное протекание к резервуару при незадействованных секциях.
Распределитель состоит из начальной крышки с встроенным предохранительным клапаном, комбинация из двойнодействующих секций (максимально 10 штук) и крайней крышки. Каждая секция снабжена с обратным клапаном на канале P
Секции коструированные с симетрическом расположением каналов.
Распределитель закрепляют к месту монтажа четырями болтами M8
Присоединение распределителя к гидросистеме резбовыми отверстиями G1/2; M...

TYPE RP80

DEFINITION
BEGRIFFE
ОПРЕДЕЛЕНИЯ



PARALLEL CIRCUIT VALVES

CODE P

The open center passage is closed off when spool is fully shifted and hydraulic oil will flow directly to the power core passage,making oil available to all work ports. If two or more spools are fully shifted at the same time,the oil will follow the path of least resistance,and the hydraulic cylinder or the hydraulic motor with the lightest load will begin to function first.
The hydlaulic oil can be divided so that it will flow to two or more functions by metering the spools.

The parallel circuit is the most commonly used circuit in mobile equipment because,thanks to metering,more than one function can be operated at the same time at random in the valve bank assembly.

PARALLELSCHALTUNG

KODE P

Die Betriebsfluessigkeit fliesst direkt durch das allgemeine Durchflusskanal der Sektionen zum Behaelter bei unbetaetigen Sektionen. Ausserdem ist jede Sektion selbststaendig mit der Hochdrucksleitung verbindet,so dass die gleichzeitige Schaltung von zwei oder mehreren Sektionen moeglich ist.
Der Einlassfoerderstrom wird abhaengig von der Zahl der betaetigen Sektionen so verteilt, dass zuerst der hydraulische Zylinder oder das Motor mit niedriger Belastung betaetigt wird.
Die Parallelschaltung ermoeglicht die gleichzeitige Ausfuehrung von zwei oder mehreren Funktionen der Betriebsorgane und findet oft Anwendung in der Praxis.

ПАРАЛЕЛЬНОЕ СВЯЗЫВАНИЕ

КОД P

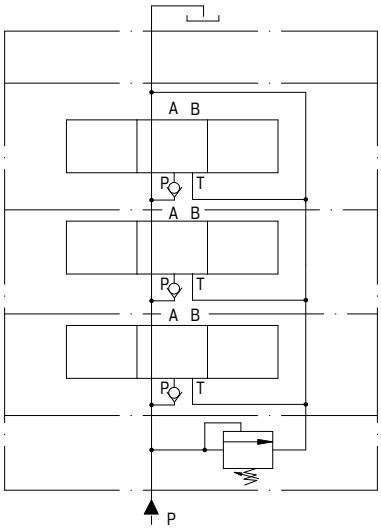
Рабочая жидкость директно протекает через общую проходную канавку секции к резервуару при незадействованныx секциях
Каждая секция связана самостоятельно с линией высокого давления, так что возможно включения в работе две или больше двух секции одновременно. Поступающий дебит распределяется в зависимости от числа задейство-ванныx секции, при етом во первых пускают в ход гидроцилиндр или мотор самым лехким товаром.
Паралелльное связание дает возможность в одно и тоже время выполнять две или более двух функции рабочими органами, которое часто находит приложение в практике.

TYPE RP80

DEFINITION
BEGRIFFE
ОПРЕДЕЛЕНИЯ

TANDEM CIRCUIT VALVES
CODE T

Hydraulic oil available to the work ports through the open center passage.When an upstream spool is fully shifted,no oil is available to a downstream section in a tandem circuit.
The upstream section has priority.



REIHENSCHALTUNG /TANDEMSCHALTUNG/
KODE T

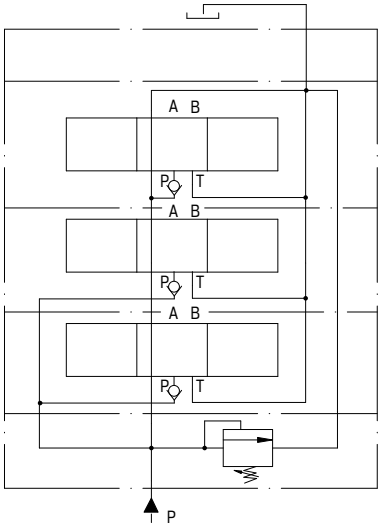
Die Betriebstfluessigkeit fliesst direkt durch das allgemeine Durchflusskanal der Sektionen zum Behaelter bei unbetaetigten Sektionen. Bei Betaetigung einer der Sektionen unterbricht sich der Foerderstrom zu den anderen Sektionen /Plungerumstellung in Endstelle/.
Diese Schaltungsart ermoeglicht die Funktion nur einer der Sektionen zu dem gegebenen Zeitpunkt.

ПОСЛЕДОВАТЕЛЬНОЕ /ТАНДЕМ/ СВЯЗЫВАНИЕ
КОД Т

Рабочая жидкость директно протекает через общую проходную канавку секции. При пускании в ход одной из секции (перемещение плунжера в крайное положение) прерывается поток к следующим секциям.
При етом способе связания может функционировать только одной из секции в данном моменте

COMBINATIONS OF
PARALLEL CIRCUIT AND TANDEM CIRCUIT
CODE C

For realizing of combined acting first have to be arranged the section with parallel acting followed by those with tandem acting.



KOMBINATION TANDEM UND PARALLELSCHALTUNG
KODE C

Diese Schaltungsart erfolgt durch den Einbau der Sektionen mit Parallelschaltung unmittelbar am Vorderdeckel, dann werden die Sektionen mit Tandemschaltung angeordnet.

КОМБИНАЦИЯ ИЗ ПОСЛЕДОВАТЕЛЬНОГО И ПАРАЛЕЛЬНОГО СВЯЗЫВАНИЯ
КОД С

При выполнении етого вида связыване, непосредствено до начальной крыши монтируют секции с паралельном связанием, за них складываются секции с последовательнім связанием.

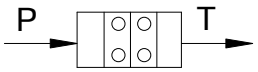
TYPE RP80

Performance curves
with 36 mm^2/s oil viscosity

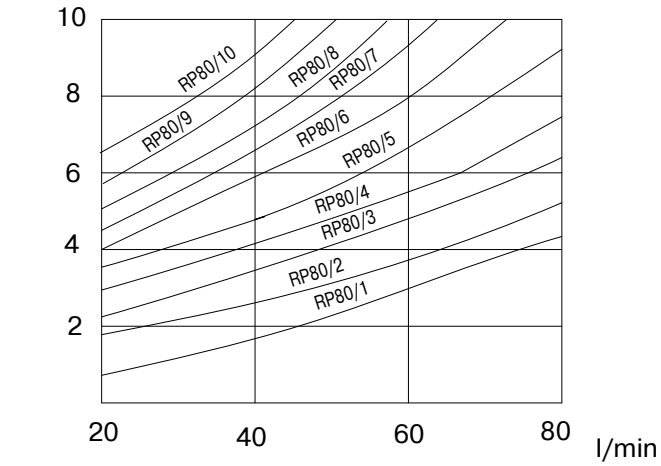
Druckennlinie
mit 36 mm^2/s Oelviskositaet

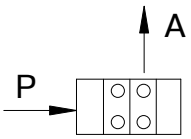
Характеристики
вязкость масло 36 mm^2/s , t=40°C

$\triangle P=f(Q)$

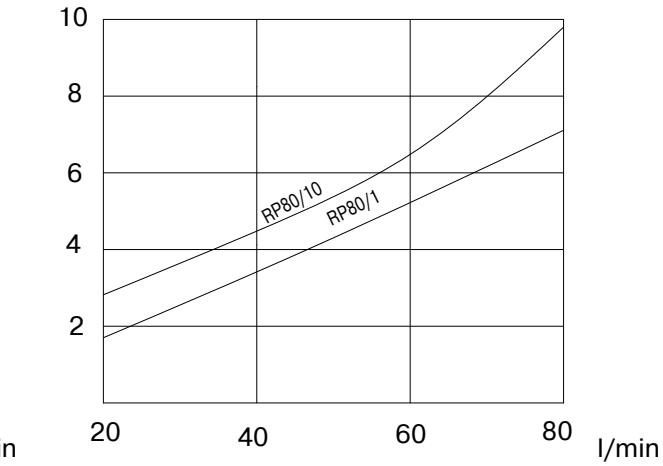


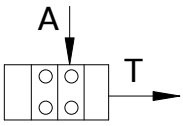
P ⟶ T



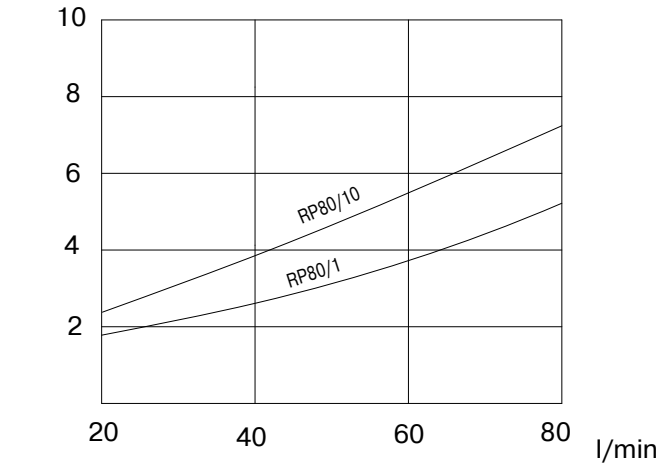


P ⟶ A



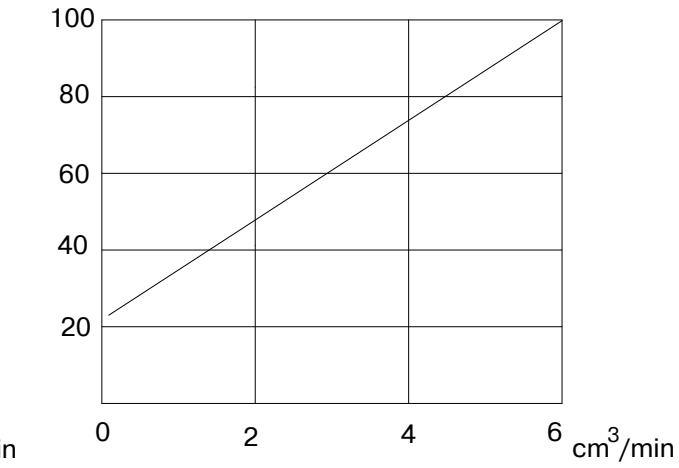


A ⟶ T



Spool Leakage
Leckage
Утечки

A, B ⟶ T

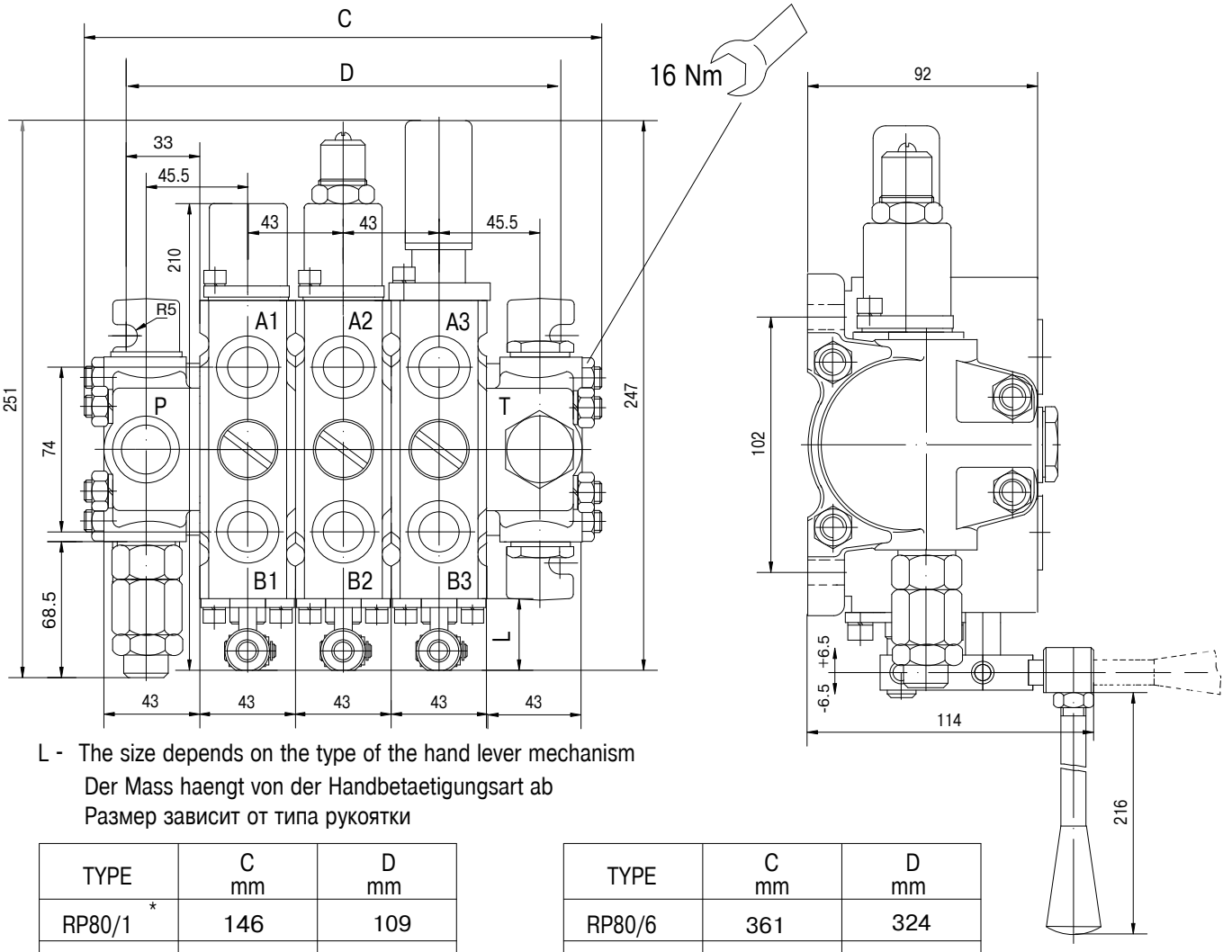


TYPE RP80

DIMENSIONS
ABMESSUNGEN
РАЗМЕРЫ

Standard available Threads
Standard Anschlussgewinde
Станд.присоединит.резьбы

Ports Anschluss	BSP (ISO 228)	METRIC
P	G 1/2	M24x1.5
A,B	G 1/2	M20x1.5
T	G 1/2	M24x1.5



L - The size depends on the type of the hand lever mechanism
Der Mass haengt von der Handbetaetigungsart ab
Размер зависит от типа рукоятки

TYPE	C mm	D mm
RP80/1 *	146	109
RP80/2	189	152
RP80/3	232	195
RP80/4	275	238
RP80/5	318	281

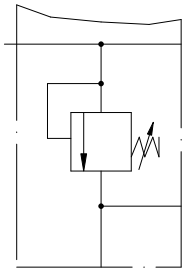
TYPE	C mm	D mm
RP80/6	361	324
RP80/7	404	367
RP80/8	447	410
RP80/9	490	453
RP80/10	533	496

* Number of spools
Plungerzahl
Число плунжеров

TYPE RP80

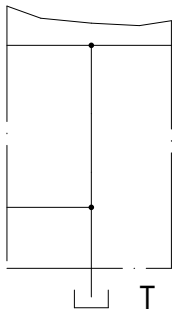
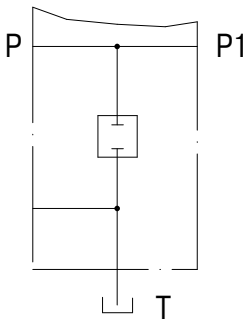
TYPE TYP ТИП	CODE KODE КОД	INLET COVER VORDERDECKEL НАЧАЛЬНАЯ КРЫШКА

Scheme
Schema
Схема

Q		Top inlet Pilot operated relief valve Spitzeneingang vorgesteuertes Druckbegrenzungsventil Вход сверху Предохранительный клапан с пилотным управлением

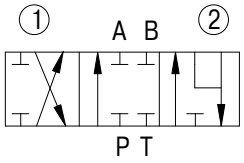
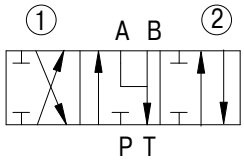
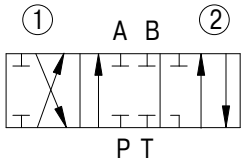
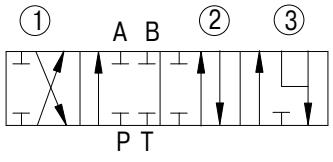
TYPE TYP ТИП	CODE KODE КОД	OUTLET COVER HINTERDECKEL КОНЕЧНАЯ КРЫШКА

Scheme
Schema
Схема

R		Top outlet to tank Spitzenausgang zum Behaelter Выход с верхней стороны к баку
W		

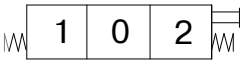
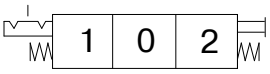
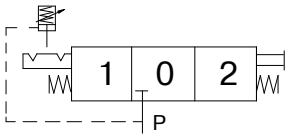
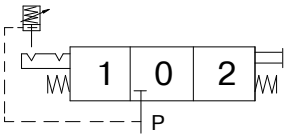
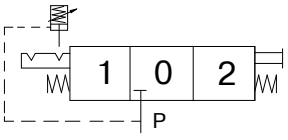
TYPE RP80

SPOOLS
PLUNGER
ПЛУНЖЕРЫ

TYPE CODE TYP KODE ТИП КОД	SCHEME SCHEMA СХЕМА	DESCRIPTION BESCHREIBUNG ОПИСАНИЕ
1		Double acting 3 position,4 way A and B to tank in ② Doppelwirkend 3-Positionen, 4-Wege A und B zum Behaelter in ② Двойнодействующий 3-позиционныій, 4-линейный A и B к резервуару в позиции ②
2		Double acting 3 position,4 way A and B to tank in centre Doppelwirkend 3-Positionen, 4-Wege A und B zum Behaelter im Zentrum Двойнодействующий 3-позиционныій, 4-линейный A и B к резервуару в центре
3		Double acting 3 position,4 way A and B closed in centre Doppelwirkend 3-Positionen, 4-Wege A und B geschlossen im Zentrum Двойнодействующий 3-позиционныій, 4-линейный A и B закрытыe в центре
4		Double acting 4 position,4 way A and B to tank in ③ (Float plunger) Doppelwirkend 4-Positionen, 4-Wege A und B zum Behaelter in ③ (Freikolben) Двойнодействующий 4-позиционныій, 4-линейный A и B к резервуару в позиции ③ (Плавающий плунжер)

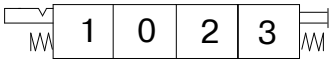
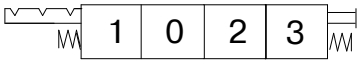
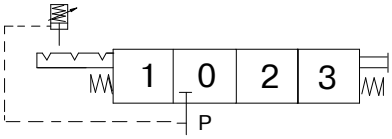
SPOOL CONTROLS
PLUNGERSTEUERUNG
ФИКСАЦИЯ ПЛУНЖЕРОВ

TYPE RP80

TYPE TYP ТИП	CODE KODE КОД	Scheme Schema Схема	Description Beschriebung Описание
	1		Spring return to position 0 Federrueckzug in Poz.0 Возврат от пружины в поз. 0
	2		Detent in position 1 or 2 Spring return to neutral Halterung in Poz.1 und Poz.2 Federrueckzug in die Neutrallage Фиксация в поз.1 и поз.2 Возврат от пружины в нейтральном положении
	3		Detent in position 1-2 with kick-out to neutral. Release pressure adjustable from 5 to 16 MPa. Needs special spool. Halterung in Poz.1 und Poz.2 . Nach Erreichen eines Drucks von 5 bis 16 MPa im System auto matischer Rueckzug in Position "neutral". Ein spezieller Plunger ist notwendig. Фиксация в позиции 1 и 2. Автоматический возврат в позицию "нейтральная" после дости-жения давления в системе от 5 до 16 MPa. Необходим специальныЙ плунжер
	4		Detent in position 1 with kick-out to neutral. Release pressure adjustable from 5 to 16 MPa. Needs special spool. Halterung in Poz.1 . Nach Erreichen eines Drucks von 5 bis 16 MPa im System automatischer Rueckzug in Position "neutral". Ein spezieller Plunger ist notwendig. Фиксация в позиции 1. Автоматический возврат в позицию "нейтральная" после дости-жения давления в системе от 5 до 16 MPa. Необходим специальныЙ плунжер
	5		Detent in position 2 with kick-out to neutral. Release pressure adjustable from 5 to 16 MPa. Needs special spool. Halterung in Poz.2 . Nach Erreichen eines Drucks von 5 bis 16 MPa im System automatischer Rueckzug in Position "neutral". Ein spezieller Plunger ist notwendig. Фиксация в позиции 2. Автоматический возврат в позицию "нейтральная" после дости-жения давления в системе от 5 до 16 MPa. Необходим специальныЙ плунжер

SPOOL CONTROLS
PLUNGERSTEUERUNG
ФИКСАЦИЯ ПЛУНЖЕРОВ

TYPE RP80

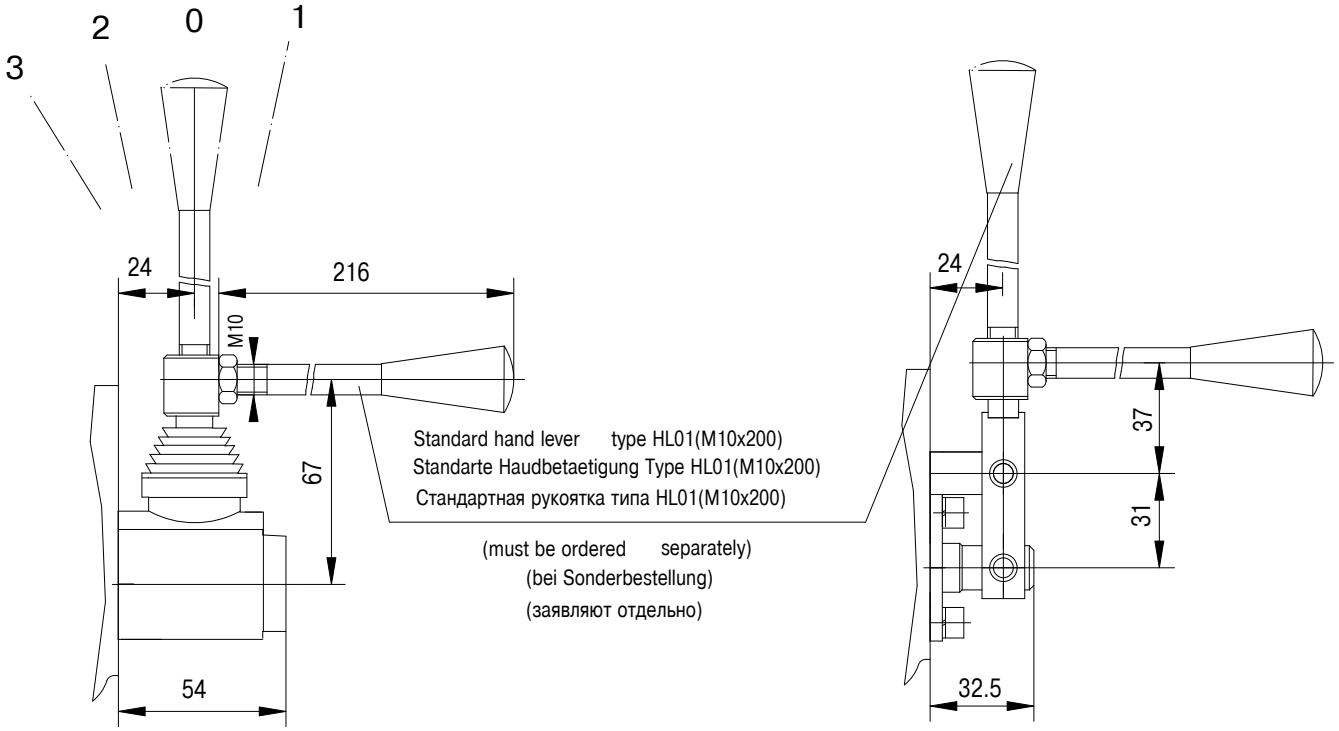
TYPE TYP ТИП	CODE KODE КОД	Scheme Schema Схема	Description Beschriebung Описание
	6		Detent in position 3 Halterung in Pos.3 Фиксация в позиции 3
	7		Detent in three positions. Spring return to neutral Halterung in Pos.1,2,3. Federrueckzug in die Neutrallage Фиксация в позиции 1, 2, 3 Возврат от пружины в поз. "нейтральная"
	8		Detent in three positions with kick-out to neutral from position 1-2. Release pressure adjustable from 5 to 16 MPa. Needs special spool. Halterung in Pos.1,2,3 Nach Erreichen eines Drucks von 5 bis 16 MPa im System automatischer Rueckzug in Position "neutral" von Positionen 1-2 Ein spezieller Plunger ist notwendig Фиксация в позиции 1, 2, 3 Автоматический возврат в позицию "нейтральная" после достижения давления в системе от 5 до 16 MPa Необходим специальный плунжер

TYPE RP80

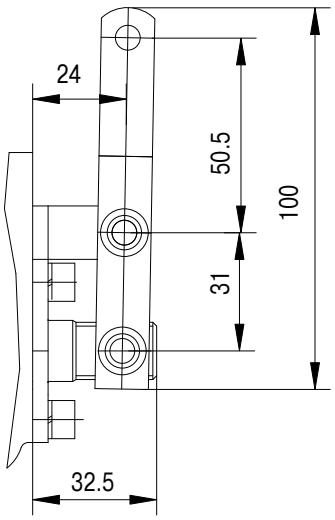
HAND LEVER MECHANISM
HANDBETAETIGUNGSMECHANISMUS
МЕХАНИЗМЫ ДЛЯ РУЧНОГО ПРИВОДА

CODE KODE КОД	
EL	with standard hand lever mit standarte Handbetaetigung с стандартной рукояткой
E	without standard hand lever ohne standarte Handbetaetigung без стандартной рукоятки

CODE KODE КОД	
DL	with standard hand lever mit standarte Handbetaetigung с стандартной рукояткой
D	without standard hand lever ohne standarte Handbetaetigung без стандартной рукоятки

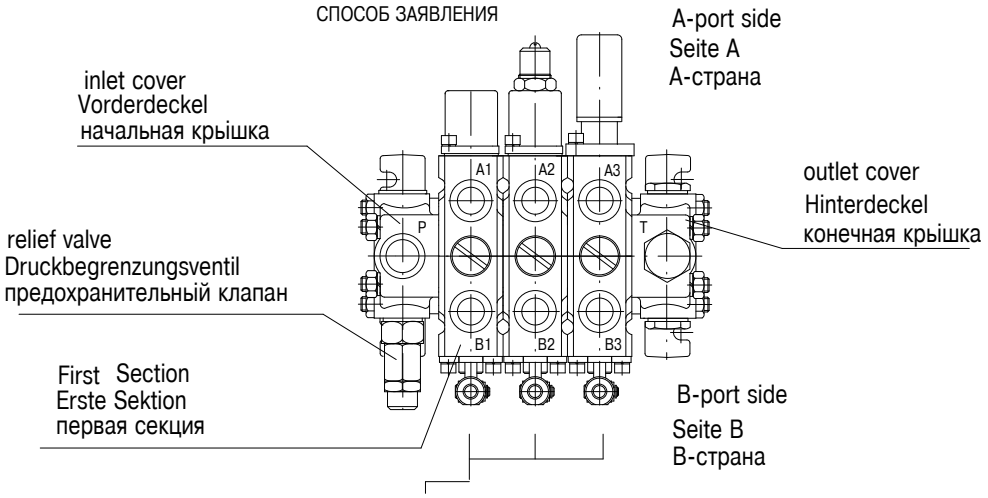


CODE
KODE
КОД
F



TYPE RP80

ORDERING CODE
BESTELLANGABEN
СПОСОБ ЗАЯВЛЕНИЯ



Repeat for each section
Wiederholt sich fuer jede Sektion
Повторяется за каждой секции

First Section * Erste Sektion первая секция

RP80 / 3 / Q / M P 3 EL 1 A / W / 250 / G

Number of working section
Zahl der funktionierenden Sektionen
число работающих секции

Inlet cover
Vorderdeckel
начальная крышка

Mechanical operated spool
Mechanisch betaetigter Plunger
механическое управление плунжера

Circuit	Schaltung	связывание	Code Kod Код
parallel	parallel	параллельное	P
tandem	tandem	тандем	T
combinations P+T	Kombination P+T	комбинация P+T	C

Spool type
Plungertype
тип плунжера
see page6
siehe s.6
см.стр.6

Hand lever mechanism
Handbetaetigungsmechanismus
механизм для ручного управления
see page8
siehe s.8
см.стр.8

Spool control type
Plungersteuerungstype
фиксация плунжера
see page7;7.1
siehe s.7;7.1
см.стр.7;1.1

Code Kod Код

Position of the lever A- port side
Position des Handriffs on der Seite A
Местоположение рукоятки со стороны A — A

Position of the lever B-port side
Position des Handriffs on der Seite B
Местоположение рукоятки со стороны B — B

Standard port treads
Anschlussgewinde
присоединительные резбы

G BSP (ISO 228)

M METRIC (ISO 6149)

Special threads on request
Andere Gewindetypen werden nach Kundenbestellung ausgefertigt
Специальные резбы исполняются по заказу клиента

Main relief valve setting
Druckbegrenzungsventileinstelldruck
давление настройки предохранительного клапана
bar

Outlet cover
Hinterdeckel
конечная крышка

* In case that the client orders some number of identical sections - he can order in the following way
Falls der Kunde mehrere Sektionen der gleichen Typ bestellt, kann er wie folgt bestellen
Если клиент заявляет несколько одинаковых секций он может записать следующим способом

Example :
Beispiel :
Пример : RP80/5/Q/2x/...../3x/...../W/250/G1/2

TYPE RP60

TECHNICAL DATA
TECHNISCHE DATEN
ТЕХНИЧЕСКИЕ ДАННЫЕ

Max. flow rate Max. Durchflussmenge Макс.расход	60 l/min
Max. operating pressure Max. Betriebsdruck Макс. давление на входе	320 bar
Max. back pressure Max. Gegendruck Макс.давление на линии слива	30 bar
Spool leackage at 100 bar,Temp 40°C, 36cst Leckage bei 100 bar, Temp 40°C, 36cst Утечки при 100 bar, Темп. 40°C,36cst	
Max.	6 cm^3/min
Min.	2 cm^3/min
Working liquid: hydraulic oils with parameters: Betriebsfluessigkeit: hydraulische Oele mit naechsten Kennziffern: Рабочая жидкость: гидравлические масла с показателями	
Oil viscosity Viskositaet Вязкость	20....80 mm^2/sec
Oil temperature Temperatur Температура	-10...+80 °C
Oil filtering Filterfeinheiten Тонкость фильтрации	0.025 mm
Sections Anzahl der Elemente Количество рабочих секций	1 - 10

STANDARD FEATURES

1. Adjustable direct acting relief valve
2. Internal load holding check valves
3. Parallel circuit
4. Balanced interchangeable spool (provides minimum leakage, smooth operation)
5. Negative overlapping of the spool

STANDARD-EIGENSCHAFTEN

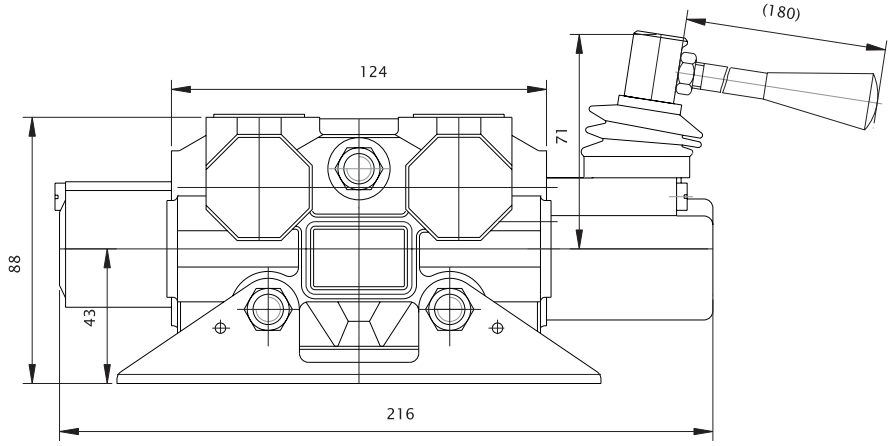
1. Druckbegrenzungsventil, einstellbar
2. Ruckschlagventil in jedem Steuerelement
3. Parallelschaltung
4. Druckausgeglichene und auswechselbare Schieber(gewaehrleisten minimale Leckage und gute Gleiteigenschaften)
5. Schieber mit negativer Ueberdeckung

КОНСТРУКЦИОННЫЕ ПРИЗНАКИ СТАНДАРТНОГО РАСПР.

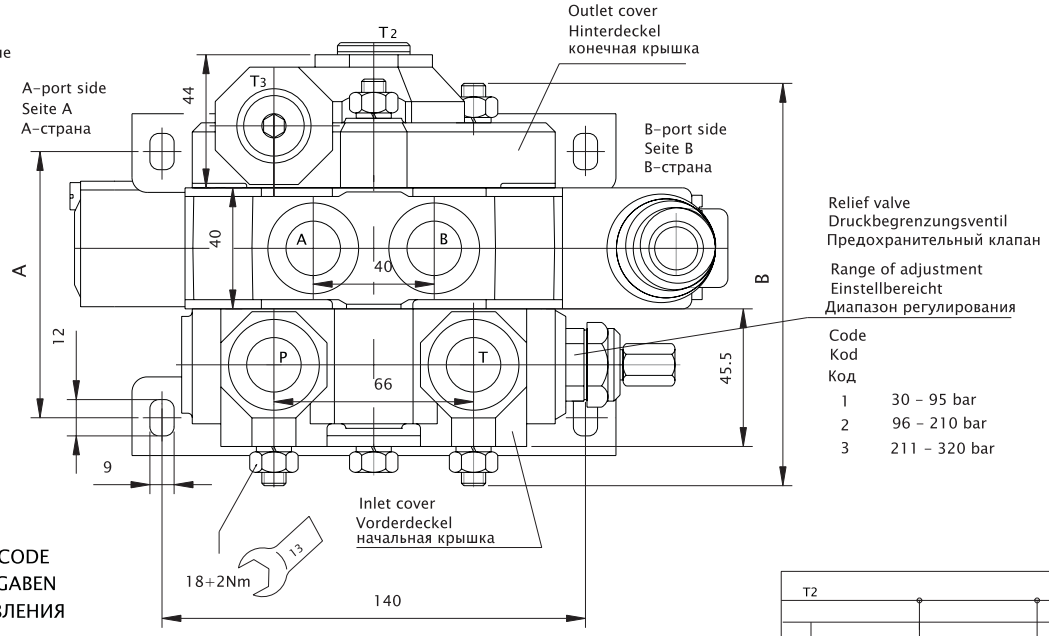
1. Регулируемый предохранительный клапан прямого действия
2. Обратный клапан на канал P
3. Параллельном связь
4. Симметричной формы золотника
5. Отрицательное перекрытие

TYPE RP60

DIMENTIONAL DATE STANDARD VALVE
ABMESSUNGEN DES STANDARD-WEGEVENTILS
РАЗМЕРЫ СТАНДАРТНОГО РАСПРЕДЕЛИТЕЛЯ



Standard port threads A,B,P,T
Standard Anschlussgewinde
Стандартные присоединительные резьбы
G3/8; G1/2



Relief valve
Druckbegrenzungsventil
Предохранительный клапан

Range of adjustment
Einstellbereicht
Диапазон регулирования

Code Kod Код	
1	30 - 95 bar
2	96 - 210 bar
3	211 - 320 bar

ORDERING CODE
BESTELLANGABEN
СПОСОБ ЗАЯВЛЕНИЯ

RP60/3/P/B/2/G3/8

Number of sections
Anzahl der Elemente
Число секции

Parallel circuit
Parallelschaltung
Параллельное связывание

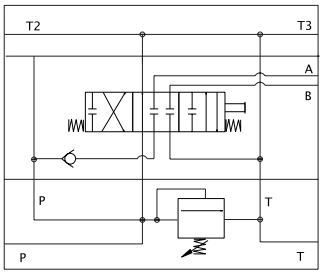
port threads A,B,P,T
Anschlussgewinde
Присоединительные резьбы

Main relief valve setting (code)
Druckbegrenzungsventileinstellung (Kod)
Давление настройки предохранительного клапана

Code
Kod
Код

Pozition of the lever - A port side
Position des Handriffs -on der Seite A
Местоположение рукоятки -со стророны А — A

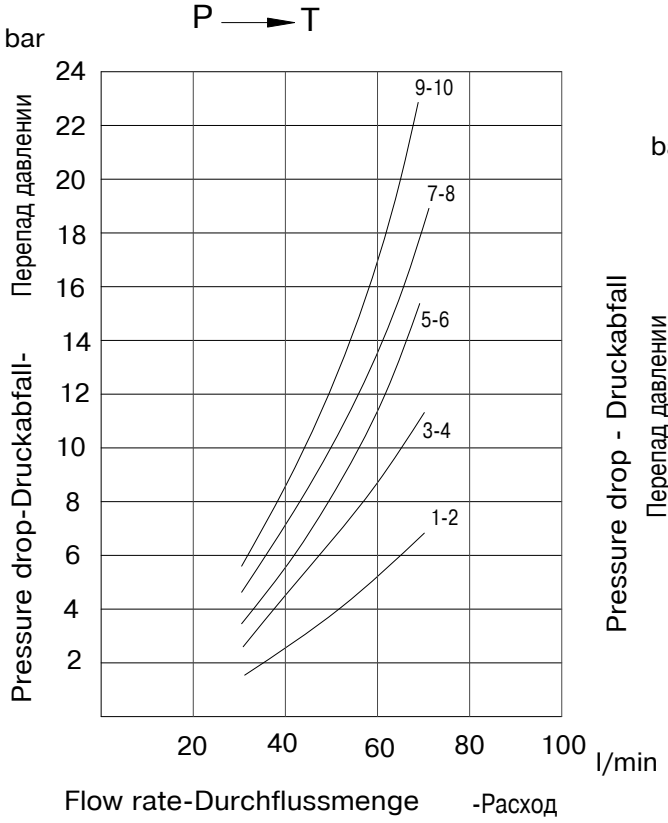
Pozition of the lever - B port side
Position des Handriffs -on der Seite B
Местоположение рукоятки -со стророны В — B



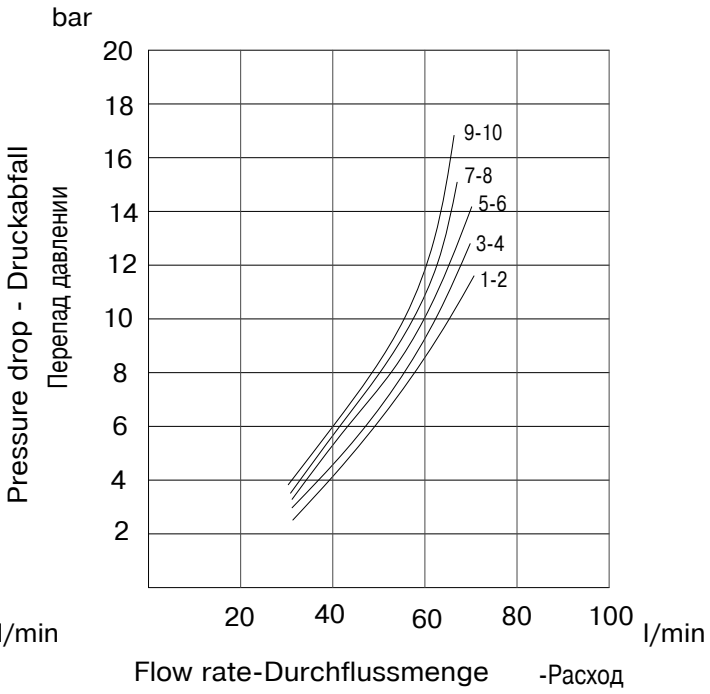
N. of sections A. der Elemente Число секции	1	2	3	4	5	6	7	8	9	10
Dimention A Abmessung A Размеры	74	114	154	194	234	274	314	354	394	434
Dimention B Abmessung B Размеры	126	166	206	246	286	326	366	406	446	486

TYPE RP60

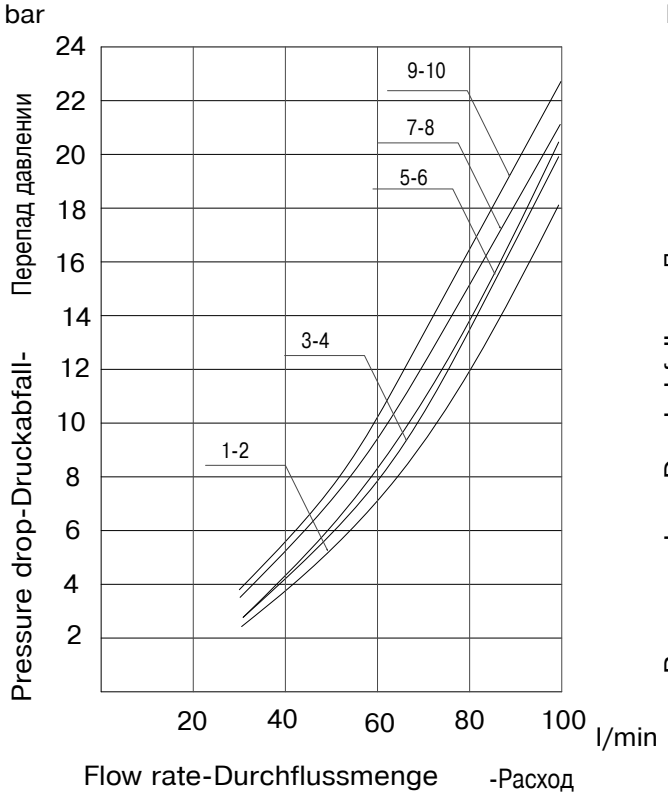
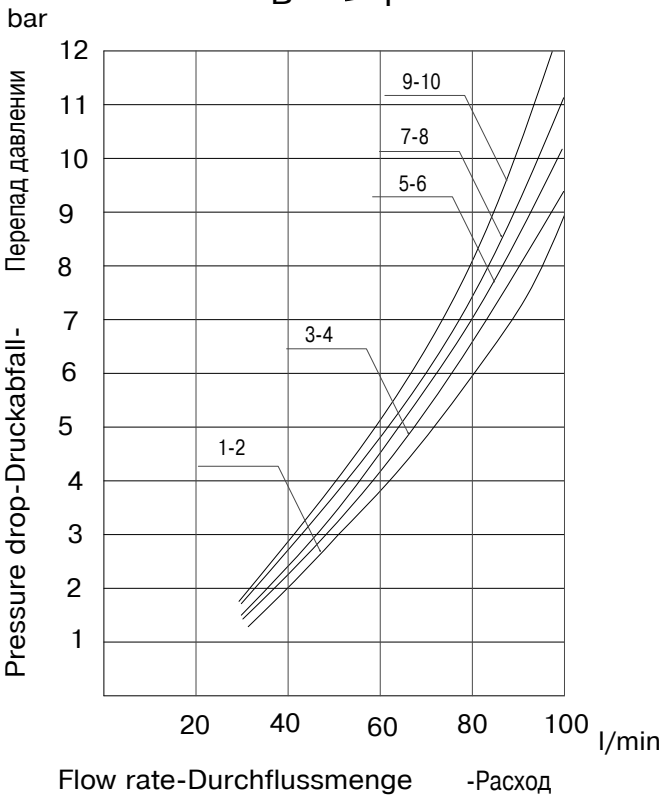
P ⟶ T



P ⟶ A/B



A ⟶ T



B ⟶ T