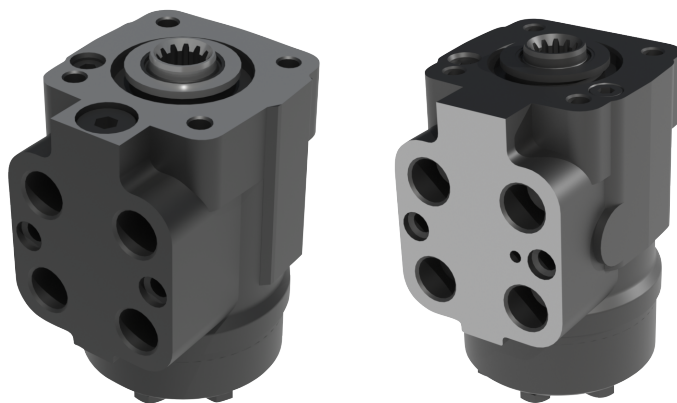




STEERING CONTROL UNITS

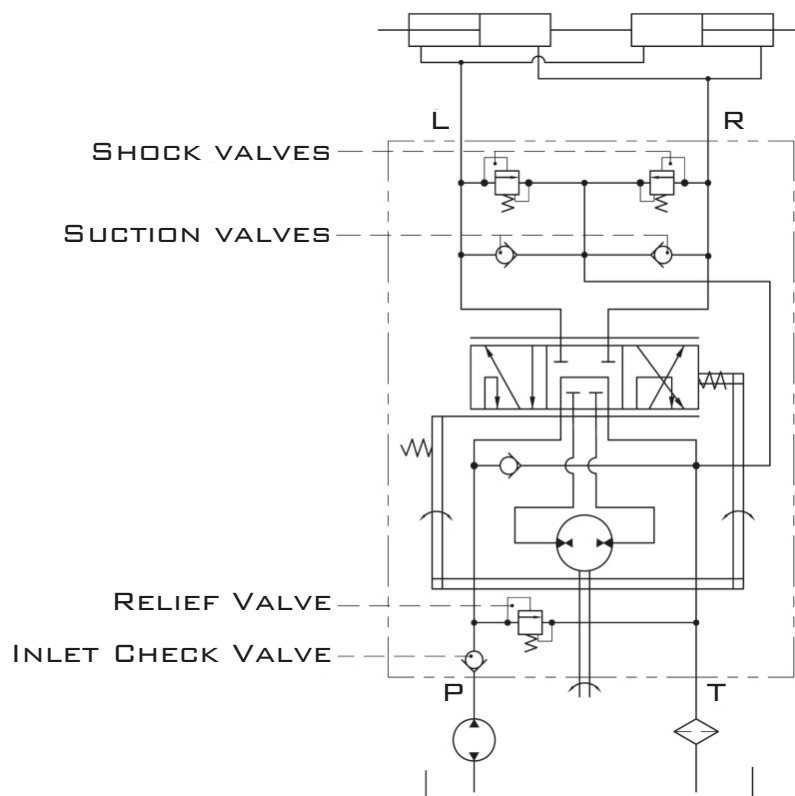
MODEL BPBS1, BPBS2, BPBS3, BQAS1



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INTRODUCTION

- **INLET CHECK VALVE** - PREVENTS OIL FROM RETURNING THROUGH THE STEERING UNIT WHEN PRESSURE ON THE CYLINDER SIDE IS GREATER THAN PRESSURE ON THE INLET SIDE TO PREVENT STEERING WHEEL KICK.
- **SHOCK VALVES** - (R&L) PROTECTS HOSES AGAINST PRESSURE SURGE CREATED BY GROUND FORCES ON THE STEERED AXLE.
- **SUCTION VALVES** - (R&L) PROTECTS STEERING CIRCUIT AGAINST VACUUM (CAVITATION) CONDITIONS.
- **RELIEF VALVE** - LIMITS MAXIMUM PRESSURE DROP ACROSS THE STEERING UNIT PROTECTING THE STEERING CIRCUIT.
- **LS-RELIEF VALVE** - LIMITS MAXIMUM PRESSURE IN THE STEERING CIRCUIT (LOAD SENSING SERIES HYDRAULIC STEERING UNITS ONLY)





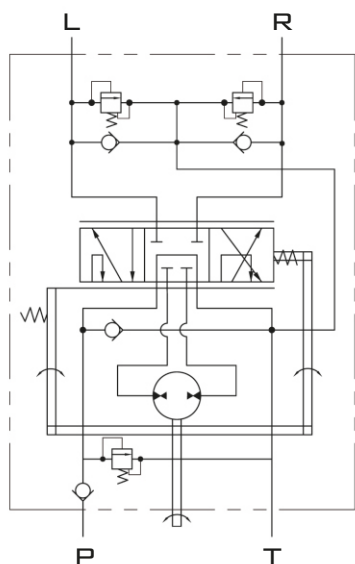
STEERING UNITS

BPBS

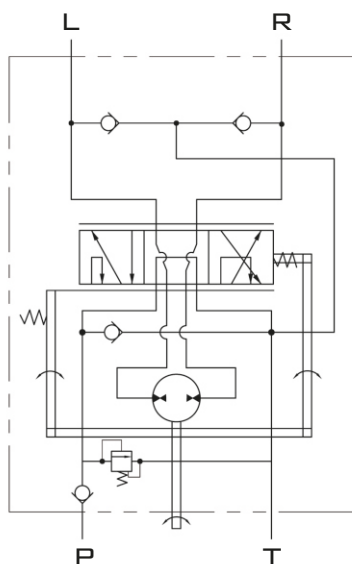
STEERING CONTROL UNITS

HYDRAULIC CIRCUIT

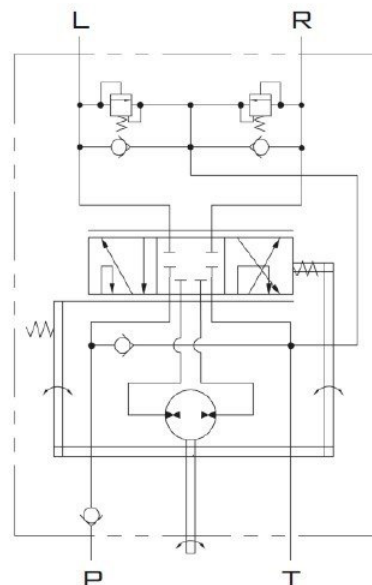
BPBS1, BPBS2, BPBS3 SERIES HYDRAULIC STEERING UNITS HAS SIMILAR DIMENSION WITH BPB1, BPB2, BPB3 WITH RELIEF VALVE, SUCTION VALVE, INLET CHECK VALVE INTEGRATED, AND DIFFERENT VALVES CAN BE ASSEMBLED FREELY, COMPACT, MORE CONVENIENT. ACCORDING TO EUROPEAN AND US STANDARDS.



BPBS1
OPEN CENTER
NON-REACTION



BPBS2
OPEN CENTER
REACTION



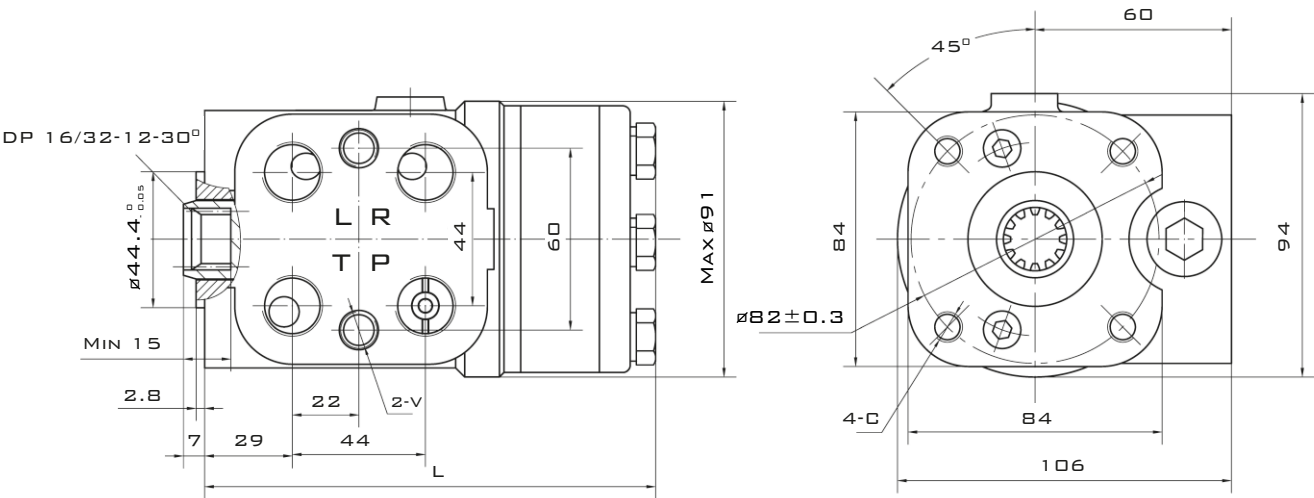
BPBS3
CLOSED CENTER
NON-REACTION

MAIN SPECIFICATION DATA

PARAMETERS		TYPE											
		BPBS1, BPBS2, BPBS3								BPBS1, BPBS2			
DISPLACEMENT	CM ³ /R	50	63	80	100	125	160	200	250	280	315	400	
RATED FLOW	L/MIN	5	6	8	10	12.5	16	20	25	28	31.5	40	
MAX.INPUT PRESSURE	MPA	17.5											
MAX.CONT.PRESSURE IN LINE T	MPA	2.5											
RELIEF VALVE PRESSURE SETTINGS	MPA	6, 8, 10, 12, 14, 16, 17.5											
SHOCK VALVES PRESSURE SETTINGS	MPA	12, 14, 16, 18, 20, 22, 23.5											
POWER STEERING TORQUE	N·M	1.6 - 2.4											
MAX.MANUAL STEERING TORQUE	N·M	130											
DIMENSION L	MM	130	132	133	136	139	144	149	155	160	165	175	
WEIGHT	KG	5.8	5.9	6	6.1	6.2	6.4	6.5	6.7	7	7.2	7.4	

NOTE: RATED FLOW FOR STEERING WHEEL THAT ROTATES AT 100 RPM.

DIMENSION AND MOUNTING DATA



PORTS THREAD

CODE	PORTS P,T,L,R	COLUMN MOUNTING C	VALVE MOUNTING V
Y	M20X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y1	M22X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y2	M18X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y3	G1/2-14 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y4	3/4-16UNF O-RING DEEP 15MM	3/8-16UNC DEEP 17MM	3/8-24UNF DEEP 16MM
Y5	M20X1.5 O-RING DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y6	M18X1.5 O-RING DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM

	STEERING UNITS	BPBS
		STEERING CONTROL UNITS

ORDER CODE

POS.1	POS.2	POS.3	POS.4	POS.5
BPBS	-	-	-	

POS.1	HYDRAULIC CIRCUIT EXPLANATION	POS.2	DISPLACEMENT cm³/R
1	OPEN CENTER NON-REACTION		50, 63, 80, 100, 125, 160, 200, 250, 280, 315, 400
2	OPEN CENTER REACTION		
3	CLOSED CENTER NON-REACTION		

POS.3	INTEGRATED VALVE PARAMETE					
CODE	INLET CHECK VALVE	RELIEF VALVE	SHOCK VALVES	SUCTION VALVES	RELIEF VALVE PRESSURE SETTINGS (MPa)	SHOCK VALVES PRESSURE SETTINGS (MPa)
A	*	*	*	*	6, 8, 10, 12, 14, 15, 16, 17.5	—
B	*	*	*			—
C	*	*		*		—
F	*	*				—
D	*		*	*	—	20, 22
E	*			*	—	—

NOTE: CODE A, B SHOCK VAVES PRESSURE SETTING IS 6 MPa HIGHER THAN RELIEF VALVE; CODE D IS THE SETTING DATA OF SHOCK VALVE, IT CAN BE SETTING ACCORDING TO USER’S REQUIREMENT.

POS.4	PORTS	POS.5	PAINT
Y, Y1, Y2	JB/T7912-1999 (ISO 262)	OMIT	NO PAINT
Y3	GB/T707-1987 (ISO 228/1)	P	PAINTED (BLACK)
Y4	ANSI B1.1-1982		

NOTE: OTHER CODE OF PORTS CAN BE ACCORDING TO THE USER DEMANT PROTOCOL

MAIN SPECIFICATION DATA

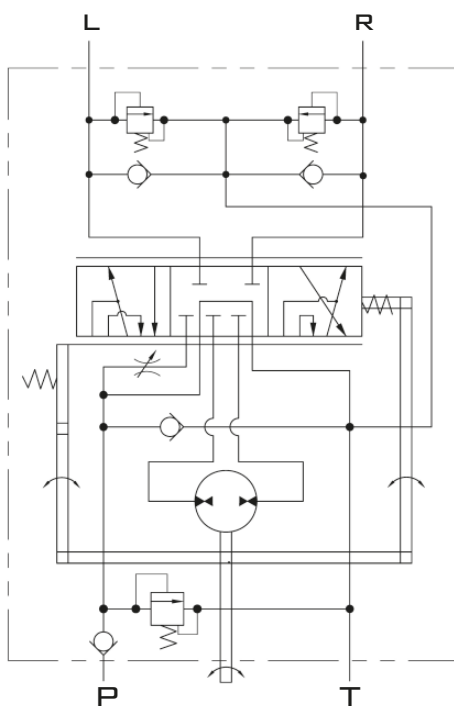
BQAS1 IS A NEW SERIES OF AN "OPEN CENTER NON-REACTION" HYDRAULIC STEERING UNIT WITH AN INCREASED FLOW BUILT-IN. THE DISPLACEMENT-WITH SERVO-AMPLIFYING WON'T BE AFFECTED BY THE ROTATION SPEED OF THE HYDRAULIC STEERING UNIT WHEEL.

FOR POWER STEERING MODE, IT HAS THE TOTAL FLOW AMPLIFYING FUNCTION WITH THE DISPLACEMENTS FROM 100 CM^3/R TO 500 CM^3/R . BUT FOR MANUAL STEERING MODE, IT HAS EMERGENCY OPERATION FUNCTION WITH THE DISPLACEMENT FROM 80 CM^3/R TO 200 CM^3/R (WITHOUT SERVO-AMPLIFYING).

BQAS1 HYDRAULIC STEERING UNIT HAS THE ADVANTAGES OF COMPACT SIZE, STABILITY STEERING PERFORMANCE AND EMERGENCY MANUAL STEERING WITH SMALL DISPLACEMENT. IT IS WIDELY USED FOR THE HYDRAULIC STEERING SYSTEM OF TRACTORS, COMBINE-HARVESTER, WHEEL LOADERS AND OTHER WHEELED VEHICLES.



HYDRAULIC CIRCUIT



OPEN CENTER NON-REACTION

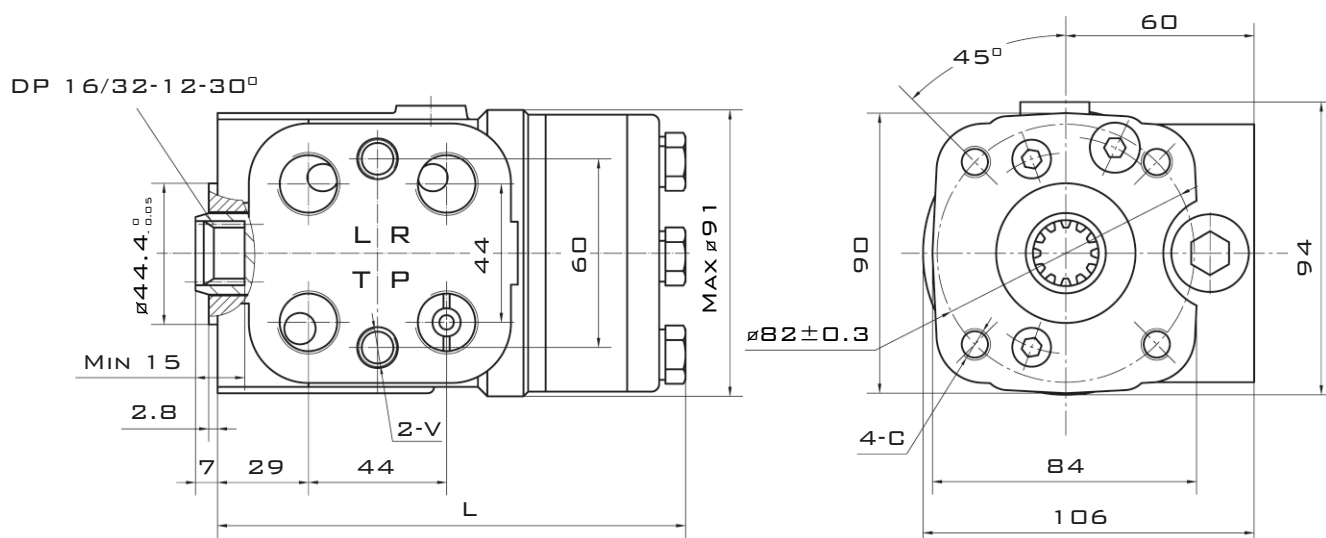


STEERING UNITS

BQAS 1

STEERING CONTROL UNITS

DIMENSION AND MOUNTING DATA



PARAMETERS	TYPE					
	BQAS 1					
DISPLACEMENT - WITHOUT SERVO-AMPLIFYING	CM ³ /R	80	100	125	160	200
DISPLACEMENT - WITH SERVO-AMPLIFYING ML/R	CM ³ /R	100, 125, 160, 200	125, 160, 200, 250	160, 200, 250, 315	200, 250, 315, 400	250, 315, 400, 500
AMPLIFYING FACTOR		1.3, 1.5, 2.0, 2.5	1.3, 1.5, 2.0, 2.5	1.3, 1.5, 2.0, 2.5	1.3, 1.5, 2.0, 2.5	1.3, 1.5, 2.0, 2.5
RATED FLOW	L/MIN	10, 12.5, 16, 20	12.5, 16, 20, 25	16, 20, 25, 31.5	20, 25, 31.5, 40	25, 31.5, 40, 50
MAX.INPUT PRESSURE	MPA	17.5				
MAX.CONT PRESSURE IN LINE T	MPA	2.5				
RELIEF VALVE PRESSURE SETTINGS	MPA	6, 8, 10, 12, 14, 16, 17.5				
SHOCK VALVES PRESSURE SETTINGS	MPA	12, 10, 14, 16, 18, 20, 23.5				
POWER STEERING TORQUE	N·M	1.6~2.4				
MAX.MANUAL STEERING TORQUE	N·M	130				
DIMENSION L	MM	133	136	139	144	149
WEIGHT	KG	6	6.1	6.2	6.4	6.5

BQAS 1	STEERING UNITS	
STEERING CONTROL UNITS		

PORTS THREAD

CODE	PORTS P,T,L,R	COLUMN MOUNTING C	VALVE MOUNTING V
Y	M20X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y1	M22X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y2	M18X1.5 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y3	G1/2-14 DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y4	3/4-16UNF O-RING DEEP 15MM	3/8-16UNC DEEP 17MM	3/8-24UNF DEEP 16MM
Y5	M20X1.5 O-RING DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM
Y6	M18X1.5 O-RING DEEP 15MM	M10X1.5 DEEP 17MM	M12 DEEP 16MM

ORDER CODE

	POS.1	POS.2	POS.3	POS.4	POS.5	POS.6
BQAS	1	-	/	-	-	-

POS.1	HEDRAULIC CIRCUIT EXPLANATION
1	OPEN CENTER NON-REACTION, SERVO-AMPLIFYING

POS.2 / POS.3	DISPLACEMENT-WITHOUT SERVO-AMPLIFYING / DISPLACEMENT-WITH SERVO-AMPLIFYING (CM ³ /R)				
DISPLACEMENT-WITHOUT SERVO-AMPLIFYING CM ³ /R	80	100	125	160	200
DISPLACEMENT-WITH SERVO-AMPLIFYING CM ³ /R	100, 125, 160, 200 (1.3)(1.5) (2.0)(2.5)	125, 160, 200, 250 (1.3)(1.5) (2.0)(2.5)	160, 200, 250, 315 (1.3)(1.5) (2.0)(2.5)	200, 250, 315, 400 (1.3)(1.5) (2.0)(2.5)	250, 315, 400, 500 (1.3)(1.5) (2.0)(2.5)

POS.4	INTEGRATED VALVE PARAMETERS					
CODE	INLET CHECK VALVE	RELIEF VALVE	SHOCK VALVES	SUCTION VALVES	RELIEF VALVE PRESSURE SETTINGS (MPa)	SHOCK VALVES PRESSURE SETTINGS (MPa)
A	*	*	*	*	6, 8, 10, 12, 14, 15, 16, 17.5	-
B	*	*	*			-
C	*	*		*		-
F	*	*				-
D	*		*	*	-	20, 22
E	*			*	-	-

NOTE: CODE A, B SHOCK VALVES PRESSURE SETTING IS 6 MPa HIGHER THAN RELIEF VALVE; CODE D IS THE SETTING DATA OF SHOCK VALVE, IT CAN BE SETTING ACCORDING TO USER'S REQUIREMENT.

POS.5	PORTS	POS.6	PAINT
Y, Y1, Y2	JB/T7912-1999 (ISO 262)	OMIT	NO PAINT
Y3	GB/T707-1987 (ISO 228/1)	P	PAINTED (BLACK)
Y4	ANSI B1.1-1982		

NOTE: OTHER CODE OF PORTS CAN BE ACCORDING TO THE USER DEMAND PROTOCOL