

RAIL AIR BRAKE SYSTEM

*C3W Distributor Valve
Angle Cock Brake Hose
Slack Adjuster for Wagon & Passenger*



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Air Brakes Systems For Rail & Locomotives

01.	Distributor Valve Type I (EST) – UIC.
02.	Distributor Valve (C3W) – UIC.
03.	Automatic Two Stage Distributor Valve Type IV (C3W2).
04	Bracket for Distributor Valve.
05	Overhaul Maintenance Kit for Distributor Valve.
06	Air Brake Cylinder From 6" To 14"
07	Bogie Mounted Brake Cylinder with in-built slack adjuster.
08	Load Empty Changeover device type – VTA.
09	Angle Cock Type AAR.
10.	UIC Straight and Angled Type End Cocks
11.	End Coupling Type AAR & UIC Of Different Sizes
12	Passenger Emergency Signal Device
13	Passenger Emergency Relay Valve
14	Hose and Hose Coupling Assembly
15	Empty Load Device

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Sr. No.	Items
<p style="text-align: center;">DISTRIBUTOR VALVES AND ITS TYPES</p> <p style="text-align: center;"><u>Universal type for Wagon & Passenger</u></p>	
01	Distributor Valve Type I (EST) – UIC
02	Distributor Valve (C3W) – UIC
03	Automatic Two Stage Distributor Valve Type IV (C3W2)

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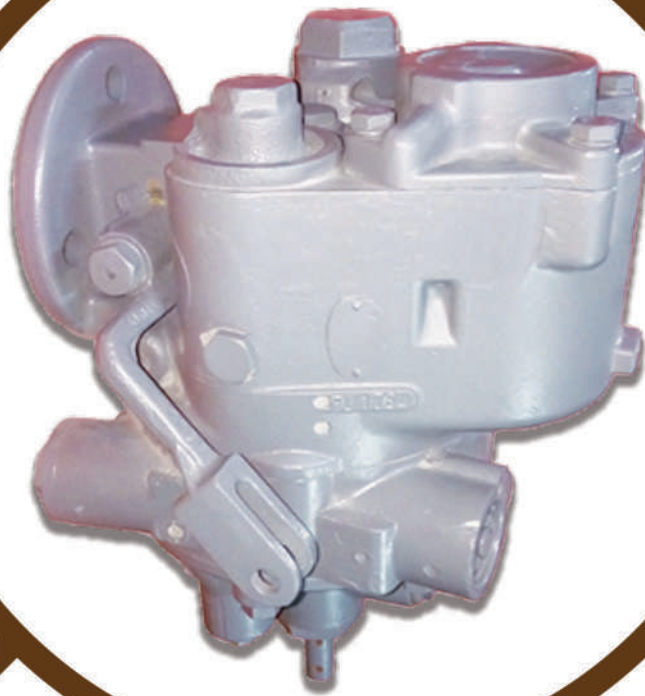


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Automatic Two Stage Distributor Valve - Type IV (C3W2)



The C3W2 distributor is basically a C3W distributor with the "Empty-Load" function added, providing two ranges of brake cylinder pressure.

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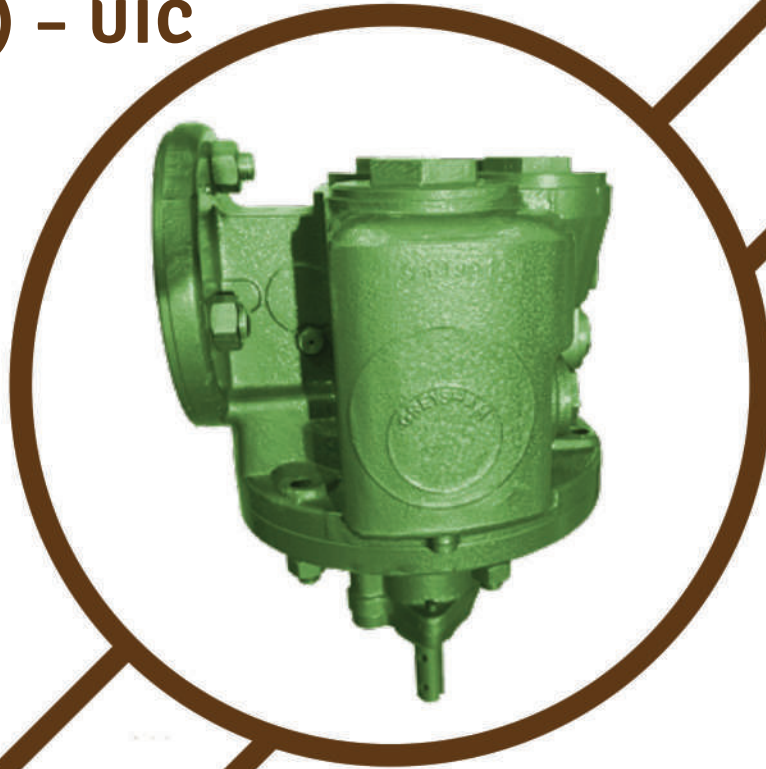


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Distributor Valve Type I (EST) – UIC



TYPES	
Est 4di/p/HBG	Est 4di/p
Est 4di/g/HBG	Est 4di/g
Est 3f/g/HBG	Est 3f/g
Est 3f/p/HBG	Est 3f/p
Est 3e/g/HBG	Est 3e/p
Est 3e/p/HBG	Est 3e/g

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Distributor Valve (C3W) - UIC



The C3W Distributor Valve offers the same qualities of security & reliability, even at low temperature, and high sensitivity as recognized by SNCF and many other Administrations. The C3W meets the many specifications laid down by the U.I.C. in order to be accepted for international traffic.

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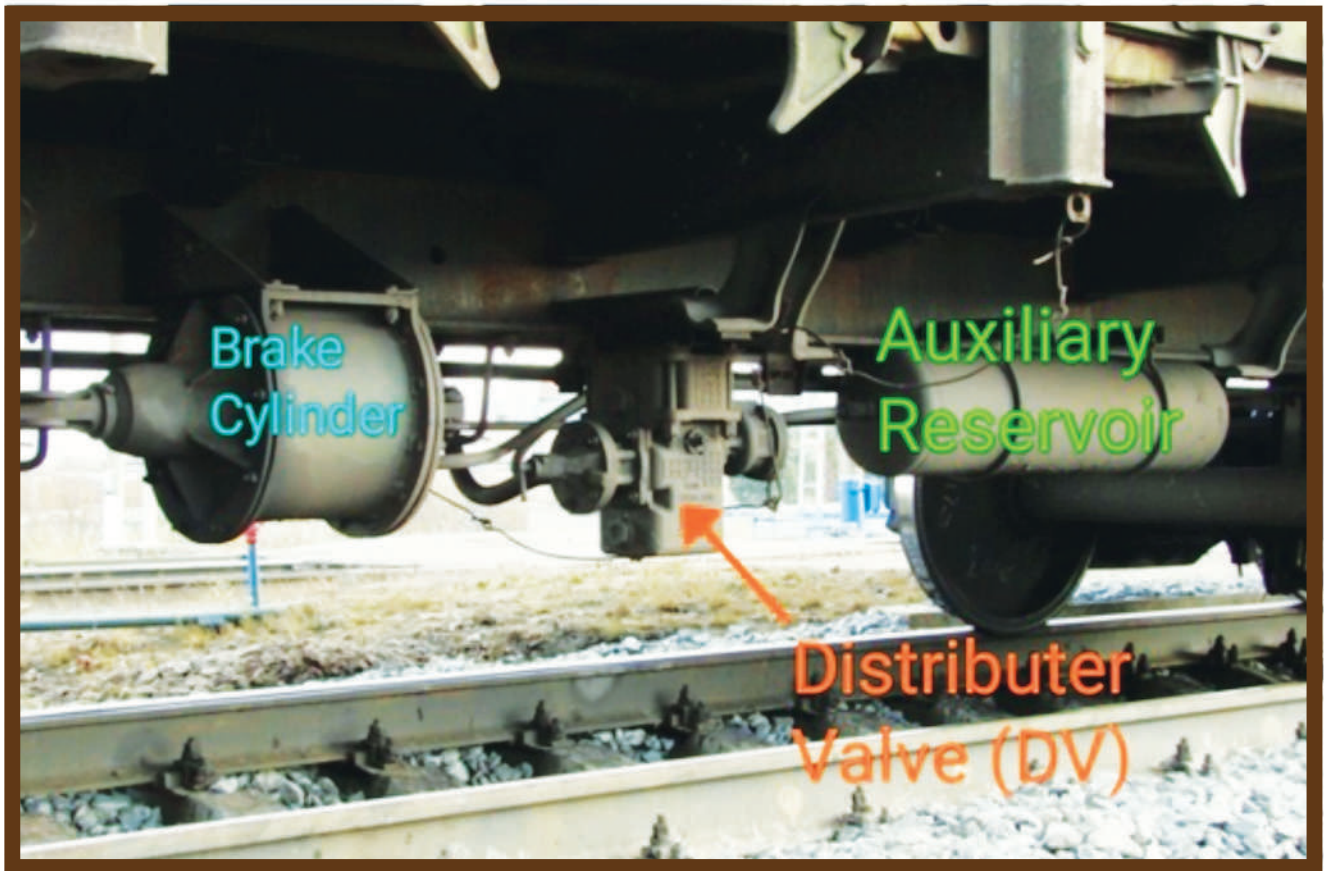


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The vast majority of the world's trains are equipped with braking systems which use compressed air as the force to push blocks on to wheels or pads on to discs



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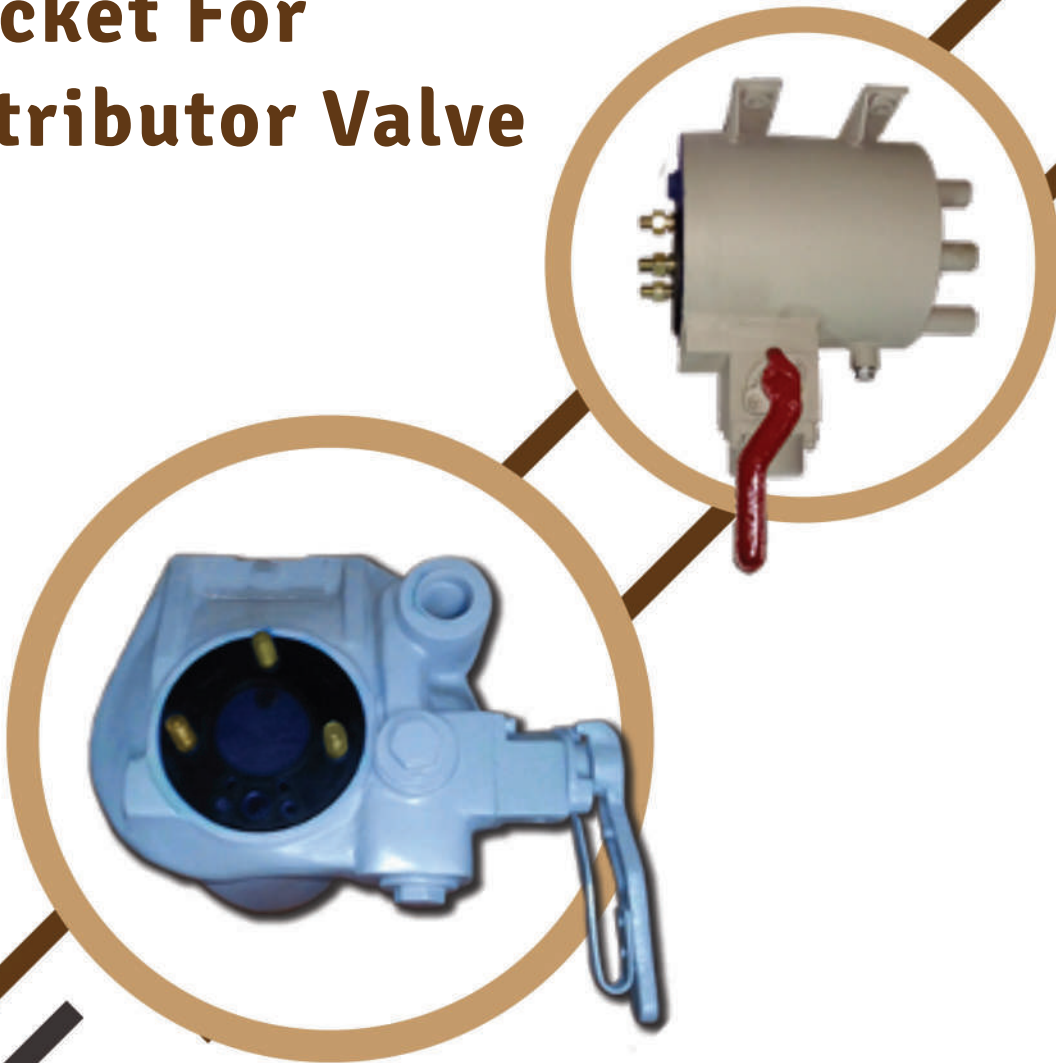


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Bracket For Distributor Valve



The bracket for distributor valve is combined with control reservoir and isolating cock. Suitable for mounting both C3W, C3W2 and EST Distributor Valve.

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Overhaul/Maintenance Kit for Distributor Valve

- Complete set of Standard POH Repair kit for Distributor Valve C3W design and Est Design
- Spring Kits for C3W Design Distributor Valve and Est Design Distributor Valve
- Customize repair kits as per the customer requirement.



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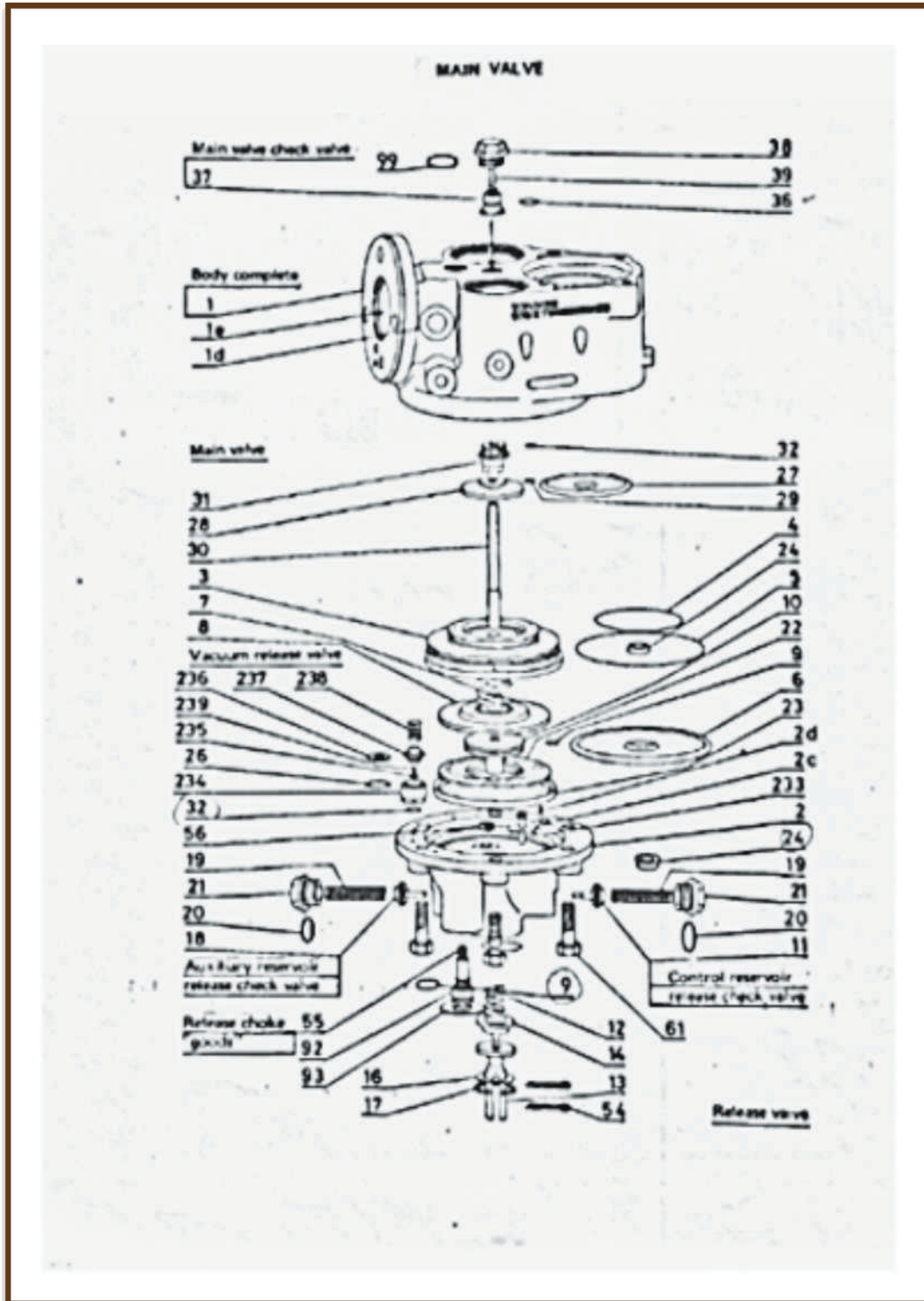
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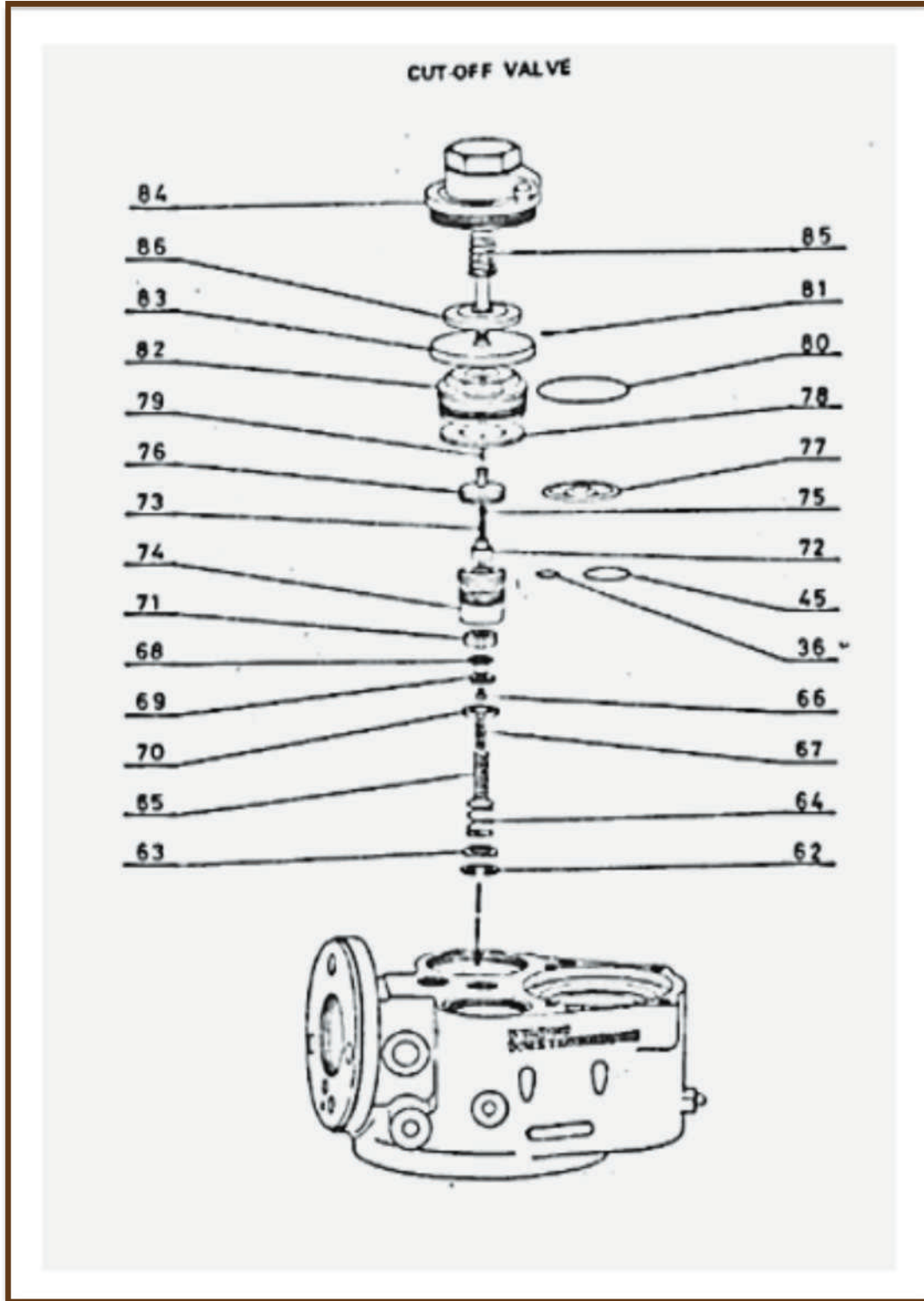
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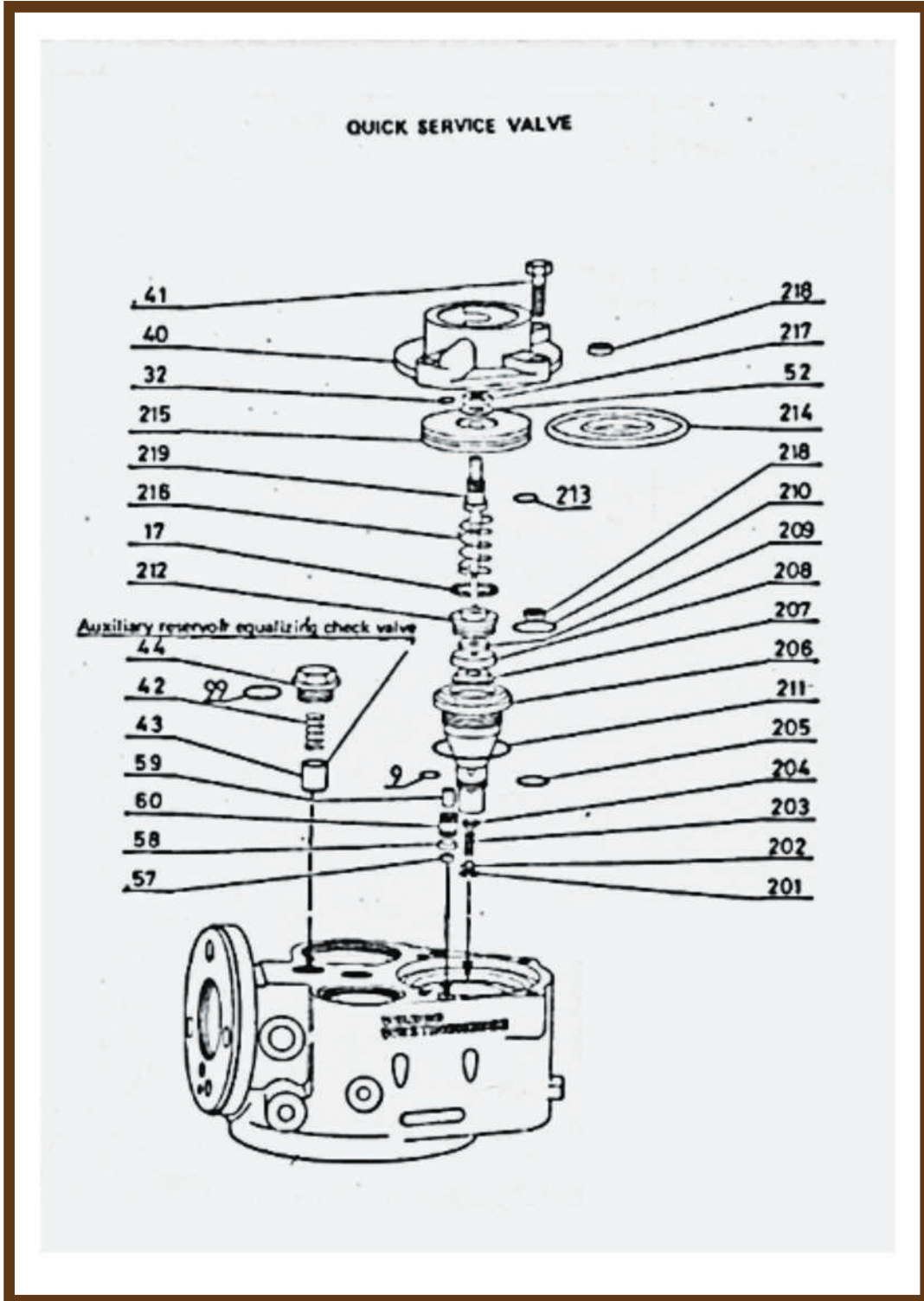
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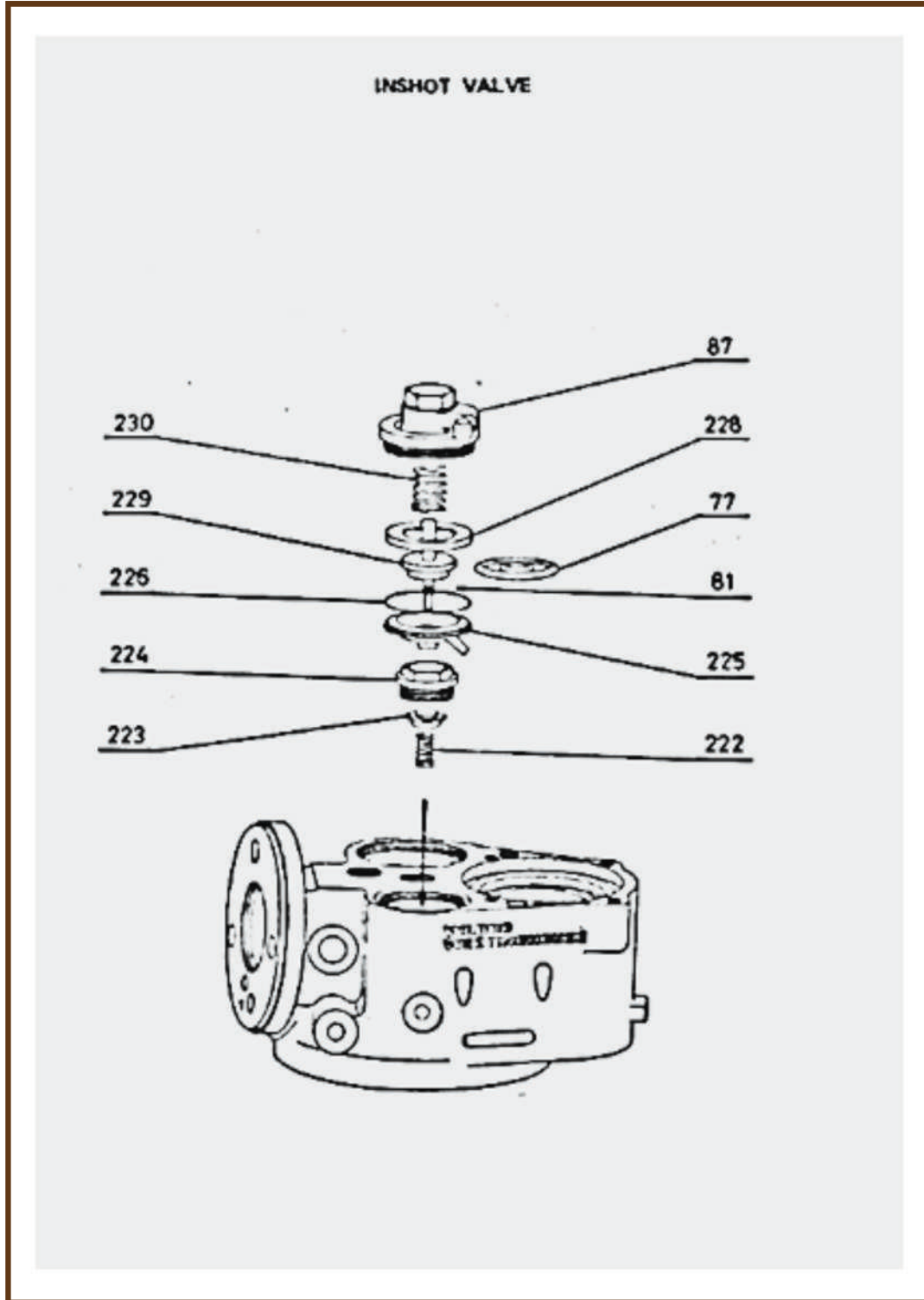
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Distributor Valve C3W *Body Parts Numbers*

Item	Qty.	Builder part number	Designation
1	1	G /190 114 01	Body complete
		G /785 088 01	Body complete including:
		G / 189 816 00	1 Machined body
1a		G /785087 00	Machined body small chamber
1b		G / 189 865 00	1 Seat
1c		G / 191 834 00	1 Seat
1d		G / 189 866 00	1 Socket
1e		G / 189 867 00	1 Cap
1f		G / 132 583 00	1 Cap
1g		G / 191 833 00	1 Cap
1h		G /118 559 00	2 Cap
			Main valve
3	1	G /190 042 00	Diaphragm holder
4	1	G/705 132 03	O-ring 95.56 X 88.5 X 3.53
5	1	G/705 134 03	O-ring 136.38 X 129.77 X 3.53
6	1	G/191 858 00	Diaphragm
7	1	G/191 870 00	Spring
8	1	G/191 863 00	Diaphragm clamp
9	1	G/705 012 03	O-ring 15.98 X 12.42 X 1.78
10	1	G/191 859 00	Diaphragm clamp
22	1	G/191 862 00	Diaphragm clamp
23	1	G/191 890 00	Ring
24	1	G/705 818 00	Collar "GACO" D162
27	1	G/191 849 00	Diaphragm
28	1	G/786 973 00	Diaphragm clamp
29	1	G/705 011 03	O-Ring 12.81 X 9.25 X 1.78
30	1	G/191 864 00	Guide
31	1	G/189 895 00	Cap
32	1	G/705 239 03	O-Ring 15 X 10 X 2.5
36	1	G/705 249 14	O-Ring 19.16 X 15.6 X 1.78

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Item	Qty.	Builder part number	Designation
37	1	G/190 220 00	Valve
38	1	G/189 919 00	Cap
39	1	G/189 931 00	Spring
61	6	G/712 334 00	Screw HM 12 - 40 / 30
99	1	G/704 819 03	O Ring 31.8 X 24.6 X 3.6
			Vacuum release valve
26	1	G/705 275 03	O-Ring 25.51 X21.95 X 1.78
32	1	G/705 239 03	O-Ring 15 X 10 X 2.5
234	1	G/189 235 00	Body SUB: assembly
235	1	G/189 237 00	Valve joint nr. 189 245
236	1	G/189 238 00	Diaphragm
237	1	G/189 236 00	Valve
238	1	G/189 233 00	Spring
239	1	G/189 234 00	Spring
			Quick service valve
9	1	G/705 012 03	O- Ring 15.98 X 12.42 X 1.78
17	1	G/701 330 00	Internal circlip O 40, thickness 1.75
32	1	G/705 239 03	O-Ring 15 X 10 X 2.5
40	1	G/787 957 01	Cover
41	1	G/712 333 00	Screw.: HM 10-30/25
52	1	G/710 603 02	Washer: 15/28 - 1.5
57	1	G/191 920 01	Washer
58	1	G/191 921 00	Collar
59	1	G/191 923 00	Valve
60	1	G/787 001 00	Socket
201	1	G/701 304 00	Internal circlip O, thickness 1
202	1	G/191 898 00	Cup
203	1	G/191 918 00	Spring
204	1	G/191 917 00	Valve
205	1	G/705 091 03	O-Ring 25.53 X 20.29 X 2.62
206	1	G/189 261 00	Seat holder
207	1	G/191 913 00	Cup

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Item	Qty.	Builder part number	Designation
208	1	G/191 614 00	Collar
209	1	G/191 915 00	Washer
210	1	G/705 164 03	O-Ring 35.06 X 29.82 X 2.62
211	1	G/705 128 03	O- Ring 35.06 X 50.4 X 3.53
212	1	G/191 916 00	"GACO" holder
214	1	G/191 894 00	Diaphragm
215	1	G/191 892 00	Diaphragm clamp
216	1	G/191 922 00	Spring
217	1	G/191 896 00	Nut M 14 X 1
218	1	G/705 817 00	Collar "GACO" DI 037
219	1	G/191 895 00	Guide
213	1	G/700 378 03	O-Ring 17.56 X 14 X 1.78
			Without quick service Valve
32	1	G/705 239 03	O-Ring 15 X 10 X 2.5
40	1	G/787 957 01	Cover
41	4	G/712 333 00	Screw HM 10.35/25
57	1	G/191 920 01	Washer
58	1	G/191 921 01	Collar
59	1	G/191 923 00	Valve
60	1	G/191 919 00	Socket
80	1	G/705 215 03	O-Ring 61.5 X 55.5 X 3
205	1	G/705 091 71	O-Ring 25.53 X 20.29 X 2.62
206	1	G/190 492 00	Plug
214	1	G/191 894 00	Diaphragm
218	1	G705 817 00	Collar "GACO" DI 037
			Auxiliary reservoir equalizing check valve
42	1	G/191 968 00	Spring
43	1	G/190 115 00	Valve
44	1	G/191 853 00	Cap
53	1	G/704 819 03	O-Ring 31.8 X 24.6 X 3.6

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Item	Qty.	Builder part number	Designation
			Without vacuum release valve
26	1	G/705 275 03	O RING 25.51 X 21.95 X 1.78
32	1	G/705 239 03	O RING 15X 10X 2.5
234	1	G/189 244 00	CAP

Item	Qty.	Builder part number	Designation
			Normal Release Valve
2		G/787 947 01	Lower cover complete including
2A		G/787 984 00	1 Lower cover
2B		G/191 872 00	2 seat
2C		G/191 887 00	1 Tilt
2D		G/184 261 00	1 Grooved pin
11	1	G/191 874 00	Check valve
12	1	G/191 881 00	Spring
13	1	G/191 875 00	Swivel rod
14	1	G/191 878 00	Spring valve seat
16	1	G/191 880 00	Washer
17	1	G/701 330 00	Internal circlip 40 Thickness 1.75
18	1	G/191 873 00	Check valve
19	2	G/191 882 00	Spring
20	2	G/191 879 00	Joint
21	2	G/191 876 00	Cap
24	1	G/705 818 00	Collar" GACO " D 162
54	2	G/704 120 00	PIN V 6.3 x 1.5
56	1	G/191 839 50	Nozzle M 14 x 1.5
			Complementary part for Quick Release Valve.
233	1	G/191 889 00	Locking rod
			Release Choke Goods.
55	1	G/780 360*	Nozzle m 8
92	1	G/785 883 00	outlet shield
93	1	G/18 9 806 00	plug
9	1	G/705 012 03	O Ring 15.98 x 12.42 x 1.78
36	1	G/ 705 249 14	O Ring 19.16 x 15.6 x 1.78

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Item	Qty.	Builder part number	Designation
45	1	G/ 705 255 03	O ring 36.61 x 33.05 x 1.78
62	1	G/ 701 320 00	Internal circlip 28, thickness 1.2
63	1	G/ 189 889 00	Spring seat
64	1	G/ 191 990 00	Spring
65	1	G/191 856 01	Spring
66	1	G/703 549 15	Jet " SOLEX" 584 500 82
67	1	G/182 714 00	Spring
68	1	G/189 888 00	Valve
69	1	G/189 890 00	Valve seat
70	1	G/189 891 00	Valve seat
71	1	G/189 887 00	Valve
72	1	G/190 271 01	Seat
73	1	G/190 272 01	Spring
74	1	G/190 270 00	Cap
75	1	G/191 942 00	Valve
76	1	G/190 274 00	Guide
77	1	G/183 019 00	Diaphragm
78	1	G/191 954 00	Diaphragm clamp
79	1	G/191 953 00	Push rod
80	1	G/705 215 03	O - ring 61.5 x 55.5 x 3
81	1	G/705 212 03	O - ring 8.03 x 4.47 x 1.78
82	1	G/787 955 01	Diaphragm clamp
83	1	G/191 964 00	Collar
84	1	G/787 956 00	Cover
85	1	G/789 650 00	Spring
86	1	G/191 951 00	Guide

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Item	Qty.	Builder part number	Designation
			Release Choke "Passenger" and Change over device.
12	1	G/191 881 00	Spring
48	1	G/191 993 00	Cap
49	1	G/189 881 00	Rotating body
50	1	G/705 033 02	O-RING 24 X 20 X 2
51	1	G/701 563 00	Disc-key 5 X 6.5
52	1	G/701 603 02	Washer 15/28 - 1.5
53	1	G/189 886 00	Screw
231	1	G/780 360	Nozzle M 8
			With Change Over Device
232	1	G/191 991 00	Handle
			Without Change Over Device
232	1	G/190 305 00	Stop
			Application Choke "Goods "
9	1	G/705 012 78	O-ring 15.98 X 12.42 X 1.78
88	1	G/189 885 00	Cap
221	1	G/780 360	Nozzle M 8
			Application Choke "Passenger"
33	1	G/191 840 01	Filter
34	1	G/191 839 *	Nozzle
35	1	G/117 460 00	Joint
47	1	G/787 686 000	Complete filter

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Item	Qty.	Builder part number	Designation
			INSHOT VALVE
77	1	G/183 019 00	Diaphragm
81	1	G/705 212 03	O-ring 8.03 X 4.47 X 1.78
87	1	G/787 954 01	Cover
222	1	G/192 010 00	Spring
223	1	G/190 116 00	Valve
224	1	G/190 217 00	Cap
225	1	G/190 276 00	Cup
226	1	G/705 252 03	O-ring 64 X 60X 2
228	1	G/190 275 00	Diaphragm Clamp
229	1	G/190 262 00	Guide
230	1	G/192 009 01	Spring

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Technical Parameters		Specification	
Maximum brake cylinder Pressure.		3.8 ± 0.1 bar	
Time for building up to 95% of maximum. brake cylinder pressure		6 – 12 sec	
Time for brake cylinder pressure release (to 40 Kpa)		30 – 45 sec	
Operating Pressure	Position	Brake Pipe	Brake Cylinder
	Release	5 bars	0 bar
	Full Application	3.5 bar	3.8 bar
	Emergency Application	0 bar	4.1 bar

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Features	Specifications	
	Freight	Passenger
Operating pressure (release position)	5 Bar	6 Bar
Filling time to 95% of brake cylinder pressure	18 – 30 S	3 – 6 S
Release time of train after full-service brake application	max. 70 S	max. 25 S
Control reservoir volume	7,5 Litters	
Control reservoir filling time (4.8 bar)	240 – 280 S	
Auxiliary reservoir volume	100 Litters	
Auxiliary reservoir filling time (4.8 bar)	240 – 300 S	
Recharging of pressure losses in the brake cylinder	must be ensured	
Operational reliability of the brake at operating pressure of 4 bar and 6 bar	must be ensured	
Brake cylinder diameter	14" (355 mm)	
Brake cylinder stroke	100 ± 10 mm	
Maximum brake cylinder pressure (full application)	3,8 ± 0.1 Bar	
Emergency application pressure	4.1 ± 0.15 Bar	
Brake pipe diameter	1.25 in. (31.75 mm)	

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