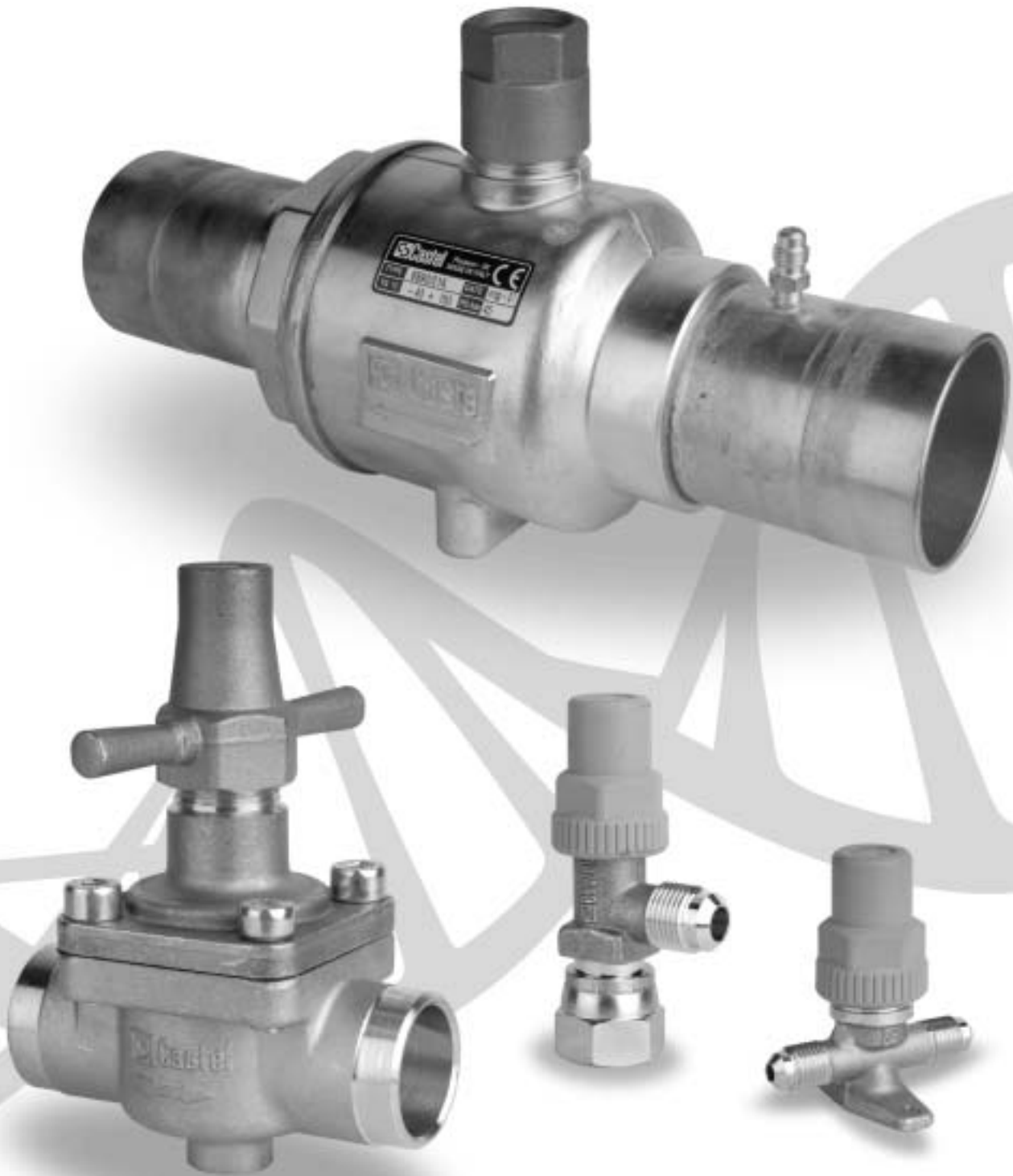


# Valves



 **Castel<sup>®</sup>**

# HERMETIC VALVES

## APPLICATIONS

The hermetic valves, shown in this chapter, are classified "Pressure accessories" in the sense of the Pressure Equipment Directive 97/23/EC, Article 1, Section 2.1.4 and are subject of Article 3, Section 1.3 of the same Directive. They are designed for installation on commercial refrigerating systems and on civil and industrial conditioning plants, which use refrigerant fluids proper to the Group II (as defined in Article 9, Section 2.2 of Directive 97/23/EC and referred to in Directive 67/548/EEC).

## CONSTRUCTION

These valves are available in the following two types:

- two-ways shut-off valves types 6010/2 and 6012/22;
- three-ways valves; two main connections

plus a third one for charging or manometer connection, types:

- 6065 with right access connection;
- 6075 with left access connection.

N.B. : the third way must be equipped with a valve core (for example type 8394/A or other similar ones) to be ordered separately.

The main parts of the hermetic valves are made with the following materials:

- hot forged brass EN 12420 – CW 617N for body;
- steel, with proper surface protection, or brass for the spindle;
- chloroprene rubber (CR) and aramidic fibers for gland seal;
- glass reinforced PBT for cap that covers the spindle.

TABLE 1: General Characteristics

Catalogue number	Connections					Kv Factor [m <sup>3</sup> /h]	TS [°C]		PS [bar]	Risk Category according to PED					
	SAE Flare			ODS (4)			min.	max.							
	(1)	(2)	(3)	Ø [in.]	Ø [mm]										
6010/2	-	1/4"	1/4"	-		0,27		+130							
6012/22		1/4"	-	1/4"											
6020/222		1/4"	1/4"		-	0,39									
6020/233		3/8"	3/8"			1,20									
6020/244		1/2"	1/2"			2,20									
6020/255		5/8"	5/8"			2,80									
6065/22M6		1/4"				-				6	0,46	-40	+110	45	Art. 3.3
6065/23M10		3/8"								10	1,38				
6075/22M6	1/4"	6		0,46											
6075/23M8	3/8"	8		1,29											
6075/23M10	3/8"	10		1,38											
6075/24M12	1/2"	12		2,55											
6075/25M16	5/8"	16	3,40												

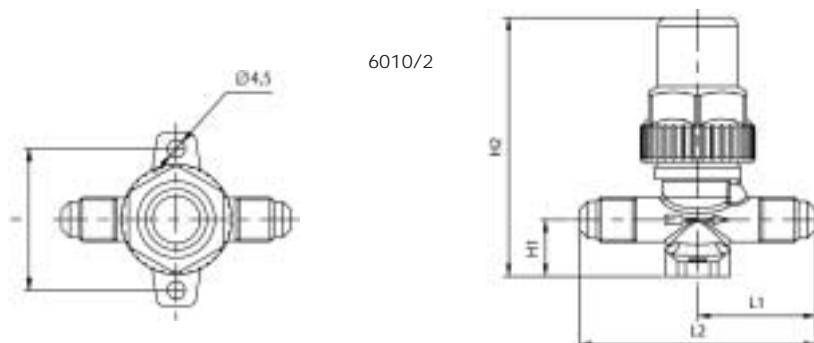
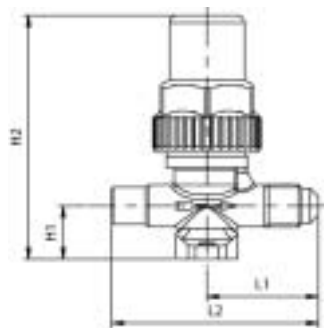
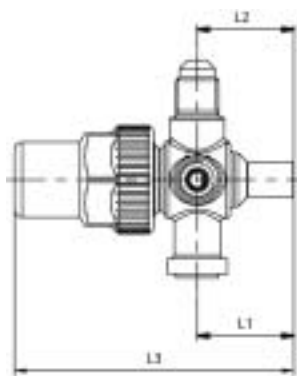
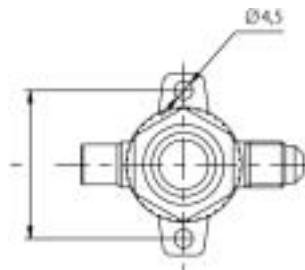


TABLE 2: Dimensions and Weight

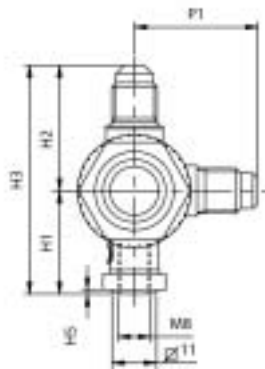
Catalogue number	Dimensions [mm]										Weight [g]
	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	I	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	P <sub>1</sub>	
6010/2	14	66	-	-		36	-	58			160
6012/22							29	55,5			145
6020/222	25	51	61	115	-		62	-	-	-	360
6020/233							67				370
6020/244							77				520
6020/255	26,5	52	68,5	127			79				530
6065/22M6	25,5	31	56,5	-	1	-	25	25	72	30,5	205
6065/23M10		33	58,5								200
6075/22M6		31	56,5								205
6075/23M8		33	58,5								210
6075/23M10		33	58,5								220
6075/24M12	29,5	38,5	68						84	32	310
6075/25M16		39,5	69								320



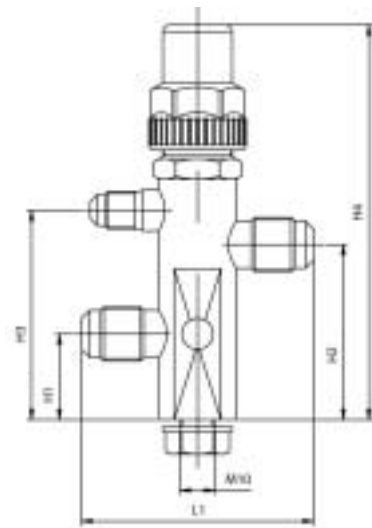
6012/22



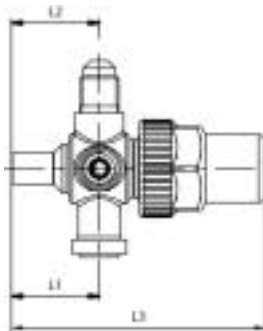
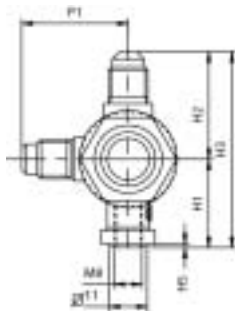
6065



6020



6075



# RECEIVER VALVES

## APPLICATIONS

The receiver valves, shown in this chapter, are classified "Pressure accessories" in the sense of the Pressure Equipment Directive 97/23/EC, Article 1, Section 2.1.4 and are subject of Article 3, Section 1.3 of the same Directive. They are designed for installation on commercial refrigerating systems and on civil and industrial conditioning plants, which use refrigerant fluids proper to the Group II (as defined in Article 9, Section 2.2 of Directive 97/23/EC and referred to in Directive 67/548/EEC).

## CONSTRUCTION

These valves are available in the following two types:

- two-ways valves, 90° angle connections, types 6110 and 6120;
- three-ways valves; two main connections (90° angle) plus a third one for charging, type 6132. The access connection may be shut off by the back-seating of the spindle;
- two-ways valves, 120° angle connections, type 6140.

The main parts of the receiver valves are made with the following materials:

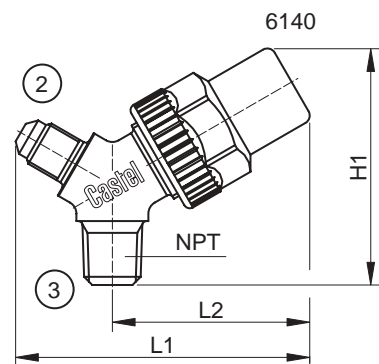
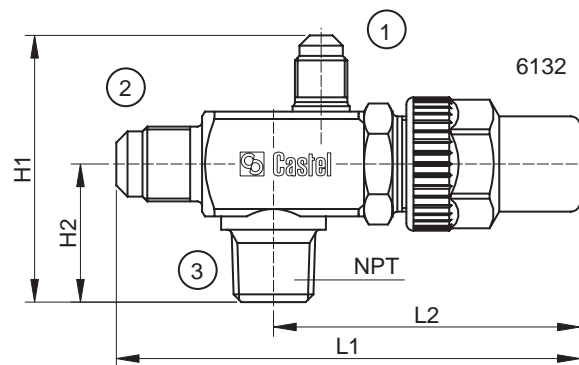
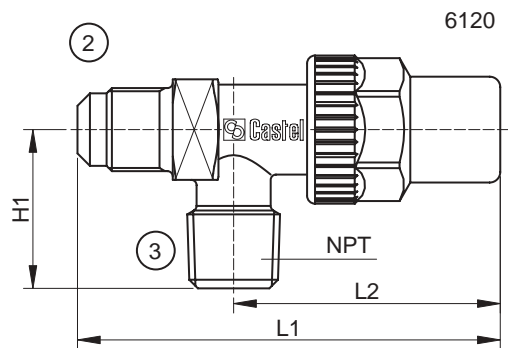
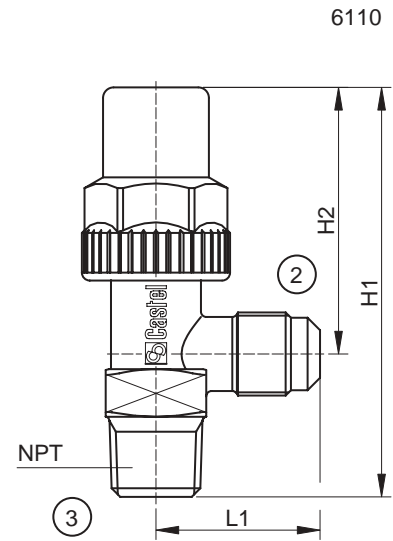
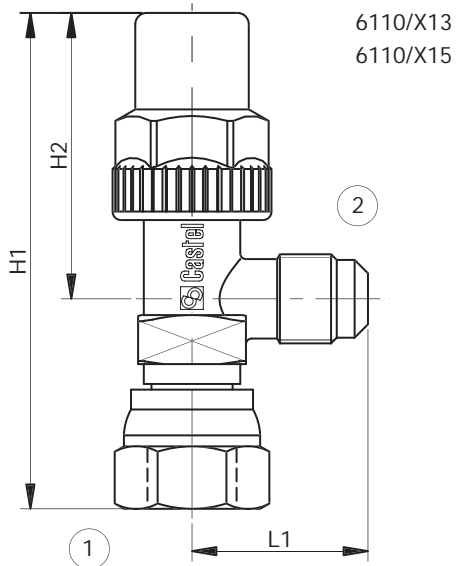
- hot forged brass EN 12420 – CW 617N for body;
- steel, with proper surface protection, for the spindle;
- chloroprene rubber (CR) and aramidic fibers for gland seal;
- glass reinforced PBT for cap that covers the spindle.

TABLE 1: General Characteristics

Catalogue number	Connections			Kv Factor [m <sup>3</sup> /h]	TS [°C]		PS [bar]	Risk Category according to PED	
	SAE Flare		NPT		min.	max.			
	(1)	(2)	(3)						
6110/21	-	1/4"	1/8"	0,44	-60	+130	45	Art. 3.3	
6110/22		1/4"	1/4"						
6110/X15		1/4" f	1/4"						-
6110/23	-	1/4"	3/8"	0,45					
6110/32		3/8"	1/4"	1,35					
6110/33		3/8"	3/8"						
6110/X13	3/8" f	3/8"	-						
6110/43	-	1/2"	3/8"	2,40					
6110/44		1/2"	1/2"	3,40					
6110/54		5/8"	1/2"						
6110/66		3/4"	3/4"	6,00					
6120/22		-	1/4"	1/4"					0,44
6120/23			1/4"	3/8"					0,45
6120/33			3/8"	3/8"					1,35
6120/43	1/2"		3/8"	2,40					
6120/44	1/2"		1/2"	3,40					
6120/54	5/8"		1/2"						
6120/66	3/4"		3/4"	6,00					
6132/22	1/4"	1/4"	1/4"	0,45					+110
6132/33		3/8"	3/8"	1,20					
6132/44		1/2"	1/2"	2,20					
6132/54		5/8"	1/2"	3,85					
6140/22	-	1/4"	1/4"	0,36					+130
6140/23		1/4"	3/8"						

TABLE 2: Dimensions and Weight

Catalogue number	Dimensions [mm]				Weight [g]
	H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	
6110/21	70,5	48	27,5	-	100
6110/22	72				110
6110/X15	83				130
6110/23	77	50	29	-	135
6110/32			31		130
6110/33			31		140
6110/X13	87	55,5	34,5	-	175
6110/43	88				220
6110/44	92				235
6110/54	92	88	42,5	-	245
6110/66	128				675
6120/22	27,5				72
6120/23	30	-	77	50	130
6120/33			80		140
6120/43			93		225
6120/44	33	-	94	55,5	305
6120/54			94		245
6120/66			130		670
6132/22	56	29	94	64	240
6132/33	97		250		
6132/44	112		375		
6132/54	63,5	36	115	75	365
6140/22	57		69		46
6140/23					125



# DIAPHRAGM VALVES

## APPLICATIONS

The diaphragm valves, shown in this chapter, are classified "Pressure accessories" in the sense of the Pressure Equipment Directive 97/23/EC, Article 1, Section 2.1.4 and are subject of Article 3, Section 1.3 of the same Directive.

They are designed for installation on commercial refrigerating systems and on civil and industrial conditioning plants, which use refrigerant fluids proper to the Group II (as defined in Article 9, Section 2.2 of Directive 97/23/EC and referred to in Directive 67/548/EEC).

## CONSTRUCTION

Diaphragm valves don't have gland seal. The external sealing is ensured by some thin metal discs (diaphragms), which hermetically divide the spindle chamber from the fluid flow area.

The main parts of the hermetic valves are made with the following materials:

- hot forged brass EN 12420 – CW 617N for body;
- brass EN 12164 – CW 614N for spindle;
- harmonic steel for spring;
- nylon for seat sealing gaskets.

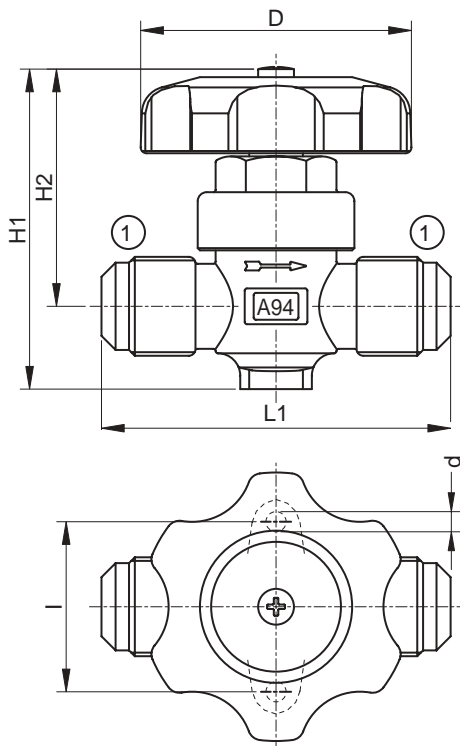
TABLE 1: General Characteristics

Catalogue number	Connections			Kv Factor [m <sup>3</sup> /h]	TS [°C]		PS [bar]	Risk Category according to PED
	SAE Flare (1)	ODS (2)			min.	max.		
		Ø [in.]	Ø [mm]					
6210/2	1/4"	-	-	0,28	-35	+90	28	Art. 3.3
6210/3	3/8"			1,00				
6210/4	1/2"			1,30				
6210/5	5/8"			1,80				
6210/6	3/4"			3,65				
6220/2	-			1/4"				
6220/3	-	3/8"	1,00					
6220/4	-	1/2"	1,30					
6220/5	-	5/8"	16	1,80				
6220/6	-	3/4"	-	3,65				
6220/7	-	7/8"	-					

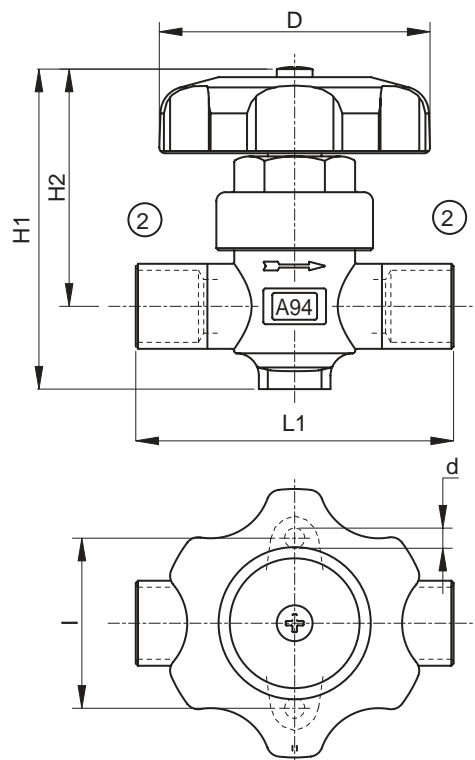
TABLE 2: Dimensions and Weight

Catalogue number	Dimensions [mm]						Weight [g]	
	H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	d	l	D		
6210/2	68	53,5	58	4,5	36	52	200	
6210/3	72		74		38		52	325
6210/4			78					335
6210/5	86	62,5	98	6,2	50	60	340	
6210/6	86	62,5	98	6,2	50	60	655	
6220/2	68	53,5	53	4,5	36	52	195	
6220/3	72		61		38		52	300
6220/4			70					305
6220/5			71					
6220/6	86	62,5	92	6,2	50	60	580	
6220/7	86	62,5	94	6,2	50	60	645	

6210



6220



# CAPPED VALVES

## APPLICATIONS

The capped valves, shown in this chapter, are classified "Pressure accessories" in the sense of the Pressure Equipment Directive 97/23/EC, Article 1, Section 2.1.4 and are subject of Article 3, Section 1.3 of the same Directive. They are designed for installation on commercial refrigerating systems and on civil and industrial conditioning plants, which use refrigerant fluids proper to the Group II (as defined in Article 9, Section 2.2 of Directive 97/23/EC and referred to in Directive 67/548/EEC).

## CONSTRUCTION

The main parts of the capped valves are made with the following materials:

- hot forged brass EN 12420 – CW 617N for body;
- steel, with proper surface protection, for the spindle;
- chloroprene rubber (CR) and aramidic fibers for gland seal;
- glass reinforced PBT for cap that covers the spindle.

## INSTALLATION

The brazing of capped valves with solder connections, type 6420, should be carried out with care, using a low melting point filler material. It's necessary to remove the spindle assembly, with gland too, before brazing the body. It's important to avoid direct contact between the torch flame and the valve body, which could be damaged and compromise the proper functioning of the valve.

TABLE 1: General Characteristics

Catalogue number	Connections				Kv Factor [m <sup>3</sup> /h]	TS [°C]		PS [bar]	Risk Category according to PED
	SAE Flare		ODS (3)			min.	max.		
	(1)	(2)	Ø [in.]	Ø [mm]					
6410/2	1/4"	-	-	-	0,40	-60	+110	45	Art. 3.3
6410/3	3/8"				1,00				
6410/4	1/2"				1,45				
6410/	5/8"				1,70				
6410/6	3/4"				3,50				
6420/2					1/4"				
6420/3		3/8"	1,00						
6420/M10			10	1,45					
6420/M12			12	1,70					
6420/4			1/2"	3,50					
6420/5			5/8"	18					
6420/M18				22					
6420/6			3/4"	7/8"					
6420/M22									
6420/7			7/8"						
6460/22A	1/4"	1/4"	-	-	0,35				

[E] Until exhaustion of the stock



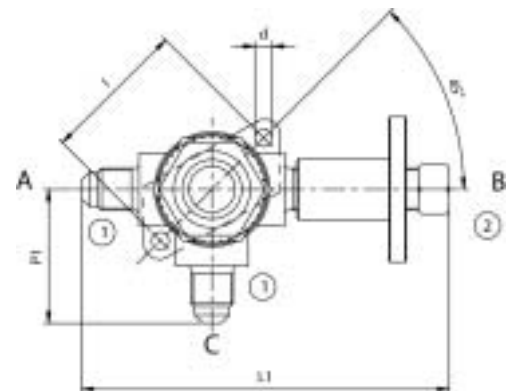
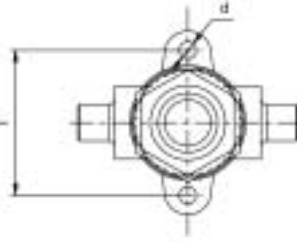
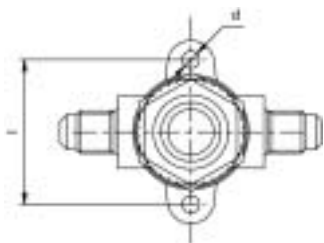
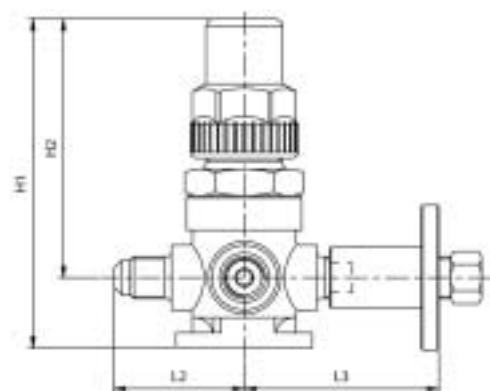
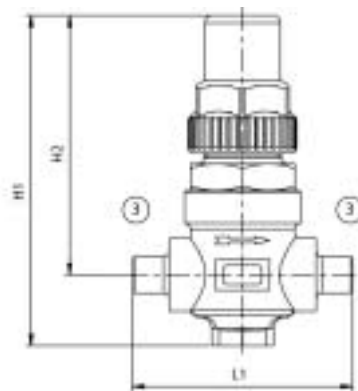
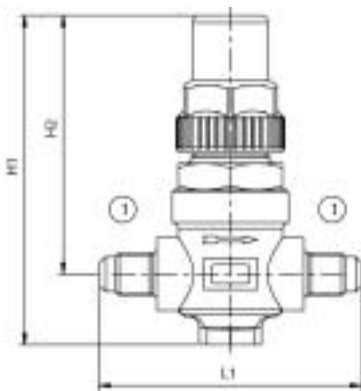
TABLE 2: Dimensions and Weight

Catalogue number	Dimensions [mm]								Weight [g]			
	H <sub>1</sub>	H <sub>2</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	P <sub>1</sub>	d	l				
6410/2	85,5	67	68				4,5	38	305			
6410/3			74						325			
6410/4			78						330			
6410/5												
6410/6	113	89,5	98	-	-	-	6,2	50	695			
6420/2	85,5	67	57				300					
6420/3			61				305					
6420/M10			70									
6420/M12			71									
6420/4												
6420/5												
6420/M18	113	89,5	92				700					
6420/6			94				685					
6420/M22							690					
6420/7												
6460/22A	85,5	67	97				34	51	35	4,5	38	395

6410

6420

6460/22A



N.B. When the valve 6460/22A is closed, connections A-B are open and C is stopped; when opened, all connections are open.

# GLOBE VALVES

## APPLICATIONS

The globe valves, shown in this chapter, are classified "Pressure accessories" in the sense of the Pressure Equipment Directive 97/23/EC, Article 1, Section 2.1.4 and are subject of Article 3, Section 1.3 of the same Directive.

They are designed for installation on commercial refrigerating systems and on civil and industrial conditioning plants, which use refrigerant fluids proper to the Group II (as defined in Article 9, Section 2.2 of Directive 97/23/EC and referred to in Directive 67/548/EEC).

## CONSTRUCTION

These valves are available in the following two types:

- 6512 with straight solder connections;
- 6532 with solder angle connections;

The main parts of the globe valves are made with the following materials:

- hot forged brass EN 12420 – CW 617N for body, cover and cap that covers the spindle;
- steel, with proper surface protection, for the spindle;
- chloroprene rubber (CR) and aramidic fibers for gland seal;
- metal-rubber laminated for outlet seal gaskets
- P.T.F.E. for seat gaskets.

TABLE 1: General Characteristics

Catalogue number	Connections				Kv Factor [m³/h]	TS [°C]		PS [bar]	Risk Category according to PED
	ODS		ODM			min.	max.		
	Ø [in.]	Ø [mm]	Ø [in.]	Ø [mm]					
6512/M22	-	22	-	28	7,1	-35	+160	45	Art. 3.3
6512/7	7/8"	-	1.1/8"	-					
6512/M28	-	28	1.3/8"	35	8,4				
6512/9	1.1/8"	-	1.3/8"	35					
6512/11	1.3/8"	35	1.5/8"	-	15,0				
6512/13	1.5/8"	-	2"	-	25,0				
6512/M42	-	42	2"	-					
6512/17	2.1/8"	54	-	-	40,0				
6532/M22	-	22	-	28	8,2				
6532/7	7/8"	-	1.1/8"	-					
6532/M28	-	28	1.3/8"	35	9,1				
6532/9	1.1/8"	-	1.3/8"	35					
6532/11	1.3/8"	35	1.5/8"	-	18,7				
6532/13	1.5/8"	-	2"	-	38,0				
6532/M42	-	42	2"	-					
6532/17	2.1/8"	54	-	-	48,5				

TABLE 2: Dimensions and Weight

Catalogue number	Dimensions [mm]						Weight [g]						
	H	H <sub>1</sub>	L	L <sub>1</sub>	Q	A							
6512/M22	136	28,5	100	-	60	94	1415						
6512/7							1310						
6512/M28					166	34	118	68	126	2020			
6512/9										3500			
6512/11	199	37	141	-	88	138	5050						
6512/M42							215	42,5	173	104	138	5050	
6532/M22	147	44,5	80	50	60	94	1350						
6532/7							1290						
6532/M28							165	52,5	93	59	68	126	1910
6532/9													4920
6532/11	238	65	139	86,5	104	138	4920						
6532/13							4765						
6532/M42							4765						
6532/17							4765						

6532

