Jefferson

Solenoid Valves

For Commercial and Industrial Refrigeration

Jefferson world wide

JEFFERSON SUDAMERICANA S.A.

has been manufacturing solenoid valves, magnetic level switches and other instruments for over 40 years for Industrial Automation. From its beginnings, its objective was the investigation and development of products to satisfy its customer's needs incorporating the latest technology.

For an effective Customer Service, this support has been organized through its world-wide distribution network so as to ensure an effective Customer Service, and has taken Jefferson from being the market leader in its home market to a prestigious international brand.

The catalogue covers more than 3000 standard products of solenoid valves and magnetic level switches, which satisfy industry's needs to handle the most diverse applications of liquids and gases such as water, air, steam, oils, refrigerants, oxygen, liquid nitrogen, vacuum, corrosive fluids and many more.

Its principal customers cover a wide spectrum of world-wide industry: Petroleum; Engineering; Laboratories; Construction; Food and Beverage; Heating; Automobiles; Metallurgical; Textile; Chemical and Petrochemical; etc.

Jefferson's head offices and main manufacturing plant is situated in Buenos Aires, Argentina, where it is equipped with the state of the art in CNC machinery - all assisted by computers - to produce high quality products for its local and export markets.

In Brazil, Jefferson Solenoidbras Ltda., has for many years been producing a limited range of models, recently they've had to boost their output to support their nation wide distribution network. In Mexico, Valjeff SA de CV is a distribution subsidiary who also has a large and important distribution network to support.

Its products have International recognition as attested by the approvals of UNDERWRITERS LABORATIRIES IND. (UL) of the USA and CANADIAN STANDARDS ASSOCIATION (CSA) of Canada; amongst others.

Furthermore, Jefferson has obtained from Bureau Veritas Quality International Certification of its Quality Management System to ISO 9001, which has enabled Jefferson to introduce its products in more than 24 countries covering the Five Continents.

Jefferson is continuously visiting sites, assisting industrial projects to understand the market's needs and offer solutions -which may require new designs- thinking and planning for the next century.

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SCOPE

The valves and level switches which are included in this catalog have been specifically designed to handle and control the current refrigerants, including ecological refrigerants, in the different states of aggregation, to apply them in the multiple systems of automatic control of refrigeration.

Not withstanding, they can be used in other applications and with other fluids which are not necessarily refrigerants

RECOMMENDATIONS FOR THE DESIGNER OF INDUSTRIAL REFRIGERATION PLANTS

The correct selection of a solenoid valve, a back-pressure regulator, or a magnetic level switch allows one to save money, obtain the best performance and ensure a long working life of the product.

Do not undersize nor oversize the valve. In this manual, Jefferson detailed capacity tables to facilitate the designers calculations, according to the expected output of the system, its working conditions (evaporating temperature and condensation temperature) the refrigerants to be used, its state and temperature before the valve and the pressure drop across the valve.

Check if there is a strainer, with a mesh not greater than one hundred microns fitted immediately upstream of the valve.

The best mounting position for a solenoid valve is on a horizontal pipe with the coil upwards; for some models this is the only possible position.

The maximum pressure differential should not exceed 17 bar in all cases. Consult Jefferson for pressures in excess of this limit. All our valves are tested at a hydraulic pressure of 5 times the maximum pressure allowable differential, i.e. 85 bar.

Check if the minimum pressure differential is equal or greater to those indicated as the minimum for the different valve models. This minimum differential must be sustained while the valve is operating. Should this pressure differential fall below the minimum, the valve will return to its natural position, which is the closed position.

Verify that at no time the outlet pressure is greater than the inlet pressure, even when the valve is closed. If this happens (as an example: the injection of hot gas in the low stage, for defrosting), it is necessary that a check valve be fitted immediately after the valve, to avoid backflow.

Make sure your electrician or electricity contractor follows the mounting instructions indicated by Jefferson, specially regarding the hermeticity of the coil connector, particularly in those cases which could be subjected to sprayed water or affected by condensate or atmospheric humidity. Thorough cleansing of the pipes is a must before the system is put into operation. In the case of the magnetic level switches its extremely important to follow our guide-lines to avoid troubles caused by false levels.

Foresee in each case which are the recommended repair kits suggested for maintenance or eventual repair. The cost of these kits are minimal and the design of the products contemplate a quick change. If shut-off valves have been strategically fitted, it is possible to attend and/or replace components, without the need of closing down or evacuating a complete system.
In each valve model that is mentioned in this manual we have indicated the corresponding code number of the Repair Kit corresponding to each case.

Consult Jefferson, if you have any doubts with anything mentioned in this catalog or an application different to the conventional; we will gladly assist you. This procedure helps to avoid an erroneous selection and to involve us in the responsibility with respect to an application of our products.

Contact the company's Technical Commercial Department by telephone, fax or mail, and you will receive its Pre-Sales Service. We consider this service so important that we have included it within the procedures of our Manual for the Administration of Total Quality to ISO 9000, and certified by the Bureau Veritas Quality International.

COIL MODELS AVAILABLE

SIZE "S"	APPROVALS	DIN CONNECTION
• Weather and humidity proof housing. •IP65 protection. • Electrical connection for 1/2" BSP. Upon request, 1/2" NPT. • "S" size coil class "H" isolation dipped in polyester. • Upon request, explosion and weather proof housings are supplied.	**FILE MH16855**	• Capsulated, humidity and weather proof. • DIN 43650 (ISO 4400) plastic connectors for armored cable PG9, PG11, or 1/2" NPT conduit • IP65 protection • Continuous use • Optional: luminous connectors or gasket incorporated to light up when the coil is energized • Upon request, weather and explosion - proof housings are supplied

Catalog Number	Part Number	Power in Watts	Tension Volts	Type of Current	Catalog Number (1)	Part Number	Power in Watts
S4800P012	S92PZ36	48	12	C/C.	MF1900C012U*	M51CZ73U*	19
S4800P024	S65P12R	48	24		MF1900C024U*	M36C027U*	19
S4800P048	S45P48	48	48		MF1900C048U*	M25C110*	19
S4800P110	S30P250	48	110		MF1900C110U*	M17C578U*	19
S4800P220	S22PA01	48	220		MF1900C220U*	M12CB13U*	19
–	–		12	50 Hz.	MF1150C012U*	M81CZ11U*	11
S4650P024	SG0PY59	46	24		MF1150C024U*	M57CZ44U*	11
–	–		48		MF1150C048U*	M40C017U*	11
S4650P110	S70P010	46	110		MF1150C110U*	M25C101U*	11
S4650P220	S50P037	46	220		MF1150C220U*	M18C406U*	11
S4650P240	S50P047	46	240		MF1150C240U*	M18C428U*	11
S4650P380	S38P110	46	380		–	–	–
–	–		12	60 Hz.	–	–	–
S4660P024	SG0PY52	46	24		MF1360C024U*	M57CZ40U*	13
–	–		48		–	–	–
S4660P0110	S70P008	46	110		MF1360C110U*	M29C067U*	13
S4660P120	S70P008	46	120		MF1360C120U*	M25C092U*	13
S4660P220	S50P034	46	220		MF1360C220U*	M20C270U*	13
S4660P240	S50P034	46	240		MF1360C240U*	M18C384U*	13

FILE LR108921-1

(1)The thermal isolation is 155°C (Class F), or upon request for 180°C (Class H)
(*)Suffix that indicates the type of connector to be supplied with the coil, as detailed:

1- Strain-relief to PG9
2- Strain-relief to PG11
3- 1/2" NPT conduit
4- Strain-relief to PG9 and luminous gasket
5- Strain-relief to PG11 and luminous gasket
6- 1/2" NPT conduit and luminous gasket
7- Luminous connector with PG9 strain-relief
8- Luminous connector with PG11 strain-relief
9- Luminous connector with 1/2" NPT conduit

Example: Catalog Nr MF1150C220U4 : DIN coil for 220v/50Hz with strain-relief PG9 and luminous gasket.

CAPSULATED
EXPLOSION AND
WEATHER PROOF
COILS

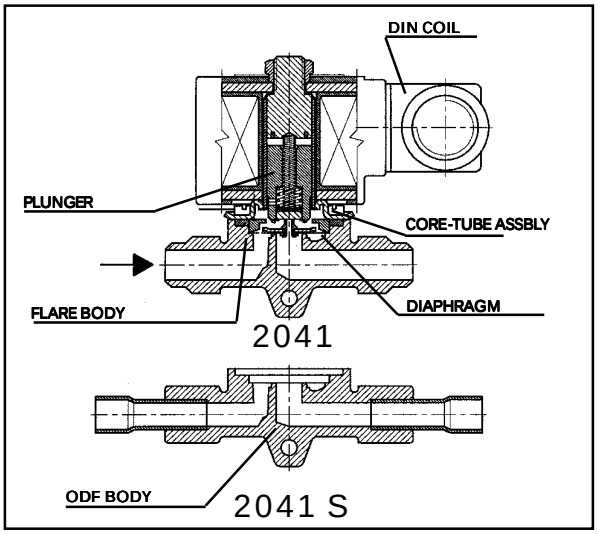
MODEL ZC


2041S Series


2041 Series

Principal Characteristics

- Forged Brass body
- Teflon seats and diaphragm
- Capsulated coils
  DIN 43650 connection
  IP65 protection.
- Minimum pressure differential: 0.07 BAR (1 PSI)
  except size 1/4" :0 BAR
- Maximum pressure differential: 21 BAR (300 PSI)
  for direct current: 10 BAR
- Maximum working pressure: 28 BAR (406 PSI)
- Temperature range: -40°C to 110°C (-40°F to 230°F)
- Flare SAE connection or brazing terminals
- The copper tube extensions do not require
  the valve to be disassembled at the time
  of brazing



Technical specifications

Size	Connection	Catalog Nr.	Kv Coefficient	Weight in Kg. (*)	Repair Kit Code
1/4"	Flare	2041BT2	0,16	0.49	K41T1
	Solder ODF	2041BT2S2		0.48	
3/8"	Flare	2041BT3	1,20	0.54	K041T1
	Solder ODF	2041BT3S3		0.59	
1/2"	Flare	2041BT4	1,40	0.55	
	Solder ODF	2041BT4S4		0.59	
5/8"	Solder ODF	2041BT4S5		0.60	
	Flare	2041BT5	2,50	0.92	K41T3
	Solder ODF	2041BT5S5		0.95	
3/4"	Solder	2041BT5S6	2,70	0.96	
7/8"	Solder ODF	2041BT5S7		0.97	

(*) The weight includes valve and coil.

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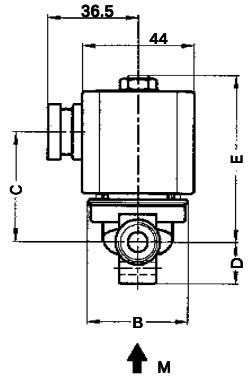
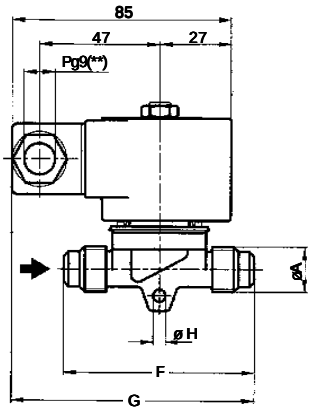
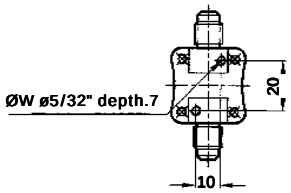
Dimensions





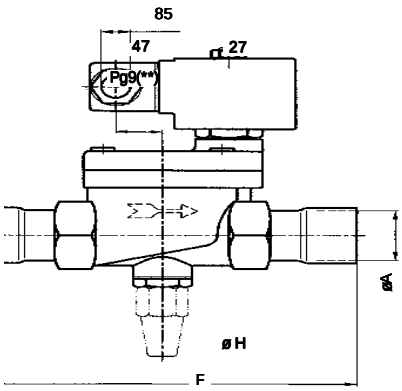
2041



M VIEW
2041 BT2 / BT2S2

Connection	Catalog	Part Nr.	DIMENSIONS (mm)								
			ø A	B	C	D	E	F	G	ø H	
1/4" FLARE	2041BT2	041BT2	—	30	53	7.7	64.3	59	87.3	–	
1/4" ODF	2041BT2S2	041BT2S2	6.40					115	115.3		
3/8" FLARE	2041BT3	041BT3	—	40.5	67	17.5	65	77	96.3	5	
3/8" ODF	2041BT3S3	041BT3S3	9.66					150	132.8		
1/2" FLARE	2041BT4	041BT4	—					77	96.3		
1/2" ODF	2041BT4S4	041BT4S4	12.76					150	132.8		
5/8" ODF	2041BT4S5	041BT4S5	15.9								
5/8" FLARE	2041BT5	041BT5	—	54.5	98	19	75.5	102	108.8	7	
5/8" ODF	2041BT5S5	041BT5S5	15.9					170	142.8		
3/4" ODF	2041BT5S6	041BT5S6	19.1								
7/8" ODF	2041BT5S7	041BT5S7	22.3								

NOTES: (**) Upon request Pg11 or ½" NPT conduit.
Optional luminous indicator.



2041 S

Recommendations for the installation of solenoid valves

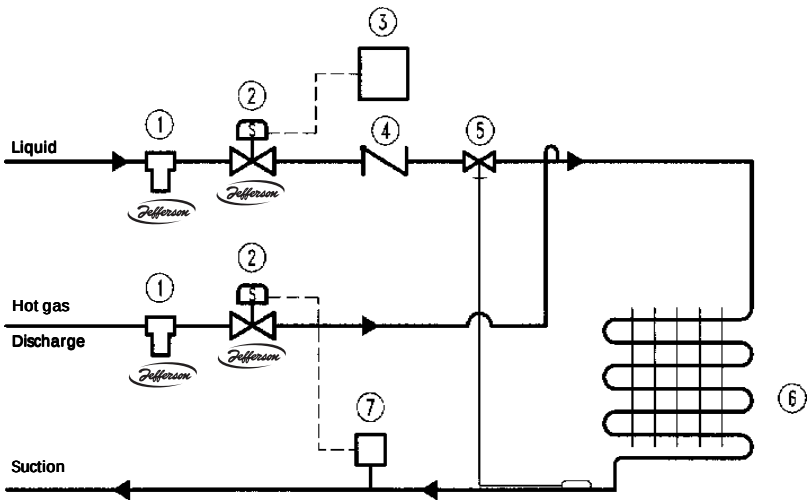
- Place a strainer immediately upstream of the valve ofless than 100 µ.
- Most favourable position: Upon a horizontal pipe line with the coil in the upward position

Instructions for brazing

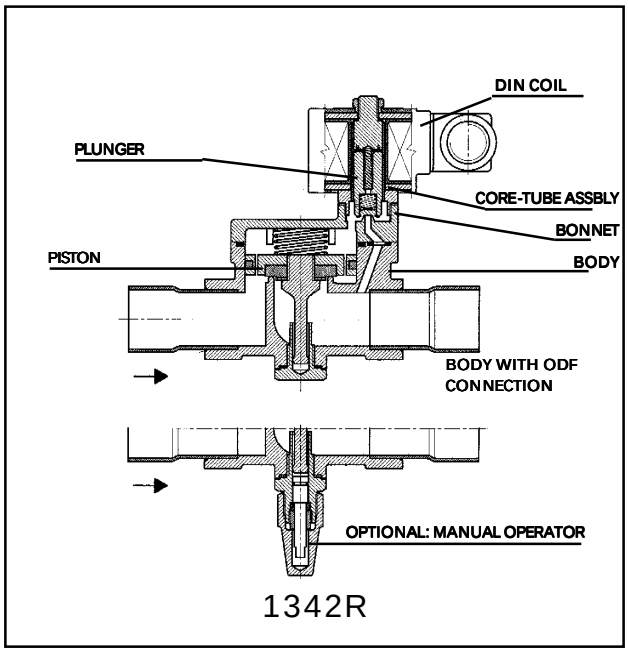
- Disassemble the valve leaving only the body
- Place a wet rag on the body as shown above to avoid excessive heat build-up
- In the case of extended copper tubes it is not necessary to disassemble the valve.
- When reassembling the valve proceed with caution in the handling of the different pieces, particularly with the Teflon diaphragm.

Typical circuit for the Δ_t regulation for chambers with relative humidity control.

1. Strainer
2. Solenoid valve
3. Thermostat
4. Check valve
5. Thermostatic expansion valve
6. Evaporator
7. Pressure-switch



This system replaces the suction pressure regulator valve.



1342R


1342R Series

Principal characteristics

- Forged Brass body
- Brass Piston
- Teflon seats
- Capsulated coils with DIN 43650 IP65 protection
- Optional: Manual operator
- Optional: Normally open
- Optional:Extender copper tubes

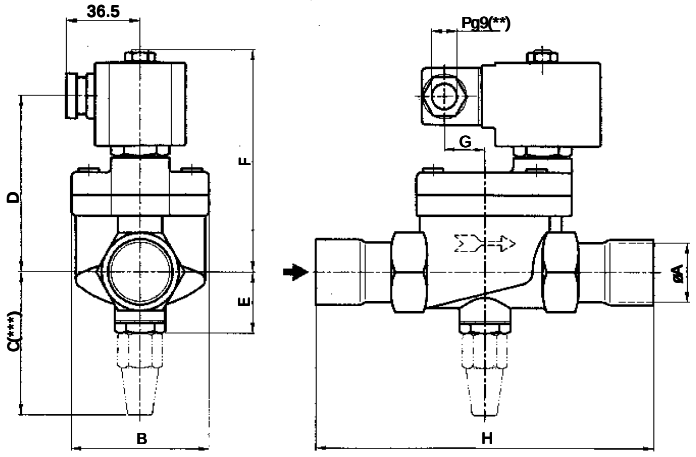
- Minimum pressure differential: 0.20 BAR (3 PSI)
- Maximum pressure differential: 21 BAR (300 PSI). for direct current: 13 BAR (189 PSI)
- Maximum working pressure: 28 BAR (406 PSI)
- Temperature range: -40° C to 110° C (-40° F to 230°F)

Technical specifications

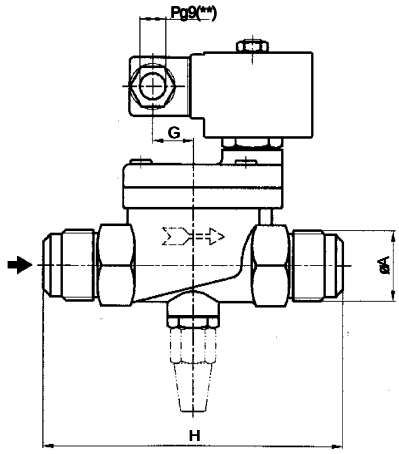
Size	Connection	Catalog Nr.	Kv. Coeffic.	Weight in Kg. (*)	Repair Kit Code
3/4"	Flare	1342BT06F	5	1.370	K42T1S
	Solder ODF	1342BT06S6		1.300	
7/8"	Solder ODF	1342BT06S7		1.310	
1,1/8"	Solder ODF	1342BT06S9		1.360	
	Solder ODF	1342BT08S9	11	1.900	K42T2S
1,3/8"	Solder ODF	1342BT08S11		1.800	
1,5/8"	Solder ODF	1342BT12S13	25	3.350	K42T3S
2,1/8"	Solder ODF	1342BT12S17		3.260	
	Solder ODF	1342BT16S17	40	4.590	K42T4S
2,3/8"	Solder ODF	1342BT16S21		4.320	

(*) The weight includes valve and coil.

Dimensions



1342 BT.S.



1342 BT.F.

Connection	Catalog	Part Nr.	DIMENSIONS (mm)							
			ø A	B	C(***)	D	E	F	G	H
3/4" FLARE	1342 BT06F	42BT6F	—	53	68.5	84	26.5	105	23.5	127
7/8" ODF	1342 BT06S7	42BT6S7	22.3							
1.1/8" ODF	1342 BT06S9	42BT6S9	28.6							170
1.1/8" ODF	1342 BT08S9	42BT8S9	28.6	67	72	87.5	30	108.5	16	190
1.3/8" ODF	1342 BT08S11	42BT8S11	35.0							
1.5/8" ODF	1342 BT12S13	42BT12S13	41.3	82	80	99	37.5	120	7	250
2.1/8" ODF	1342 BT12S17	42BT12S17	54.0							
2.1/8" ODF	1342 BT16S17	42BT16S17	54.0	98	86	105	44	126	—	280
2.5/8" ODF	1342 BT16S21	42BT16S21	66.7							

NOTES: (**) Upon request PG11 or 1/2" NPT conduit
Optional luminous indicator
(***) Optional: Manual Operator

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Recommendations for the installation of solenoid valves

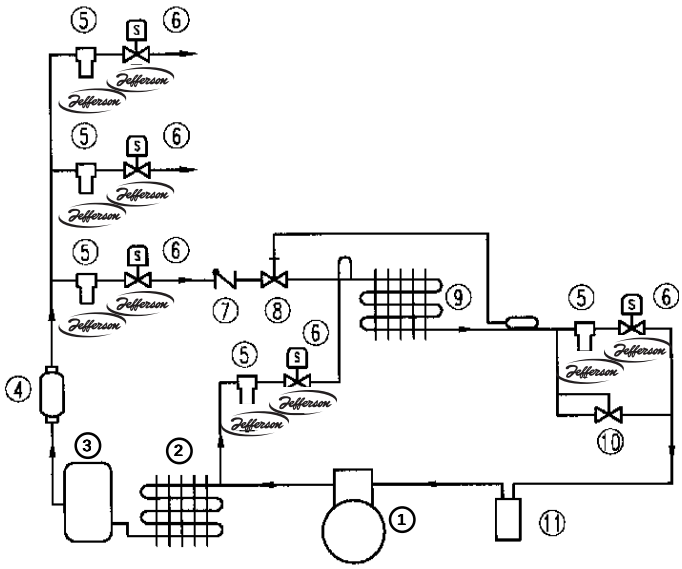
- Place a strainer immediately upstream of the valve of less than 100 µ.
- Most favourable position: Upon a horizontal pipe line with the coil in the upright position

Instructions for brazing

- Disassemble the valve leaving only the body
- Place a wet rag on the body as shown above to avoid excessive heat build-up
- In the case of extended copper tubes it is not necessary to disassemble the valve.
- When reassembling the valve proceed with caution in the handling of the different pieces, particularly with the Teflon diaphragm.

Typical circuit for hot gas defrosting.

1. Compressor
2. Condenser
3. Receiver
4. Core filter-dryer
5. Strainer
6. Solenoid valve
7. Check valve
8. Thermostatic expansion valve
9. Evaporator
10. Back-pressure regulator or orifice plate
11. Liquid suction separator



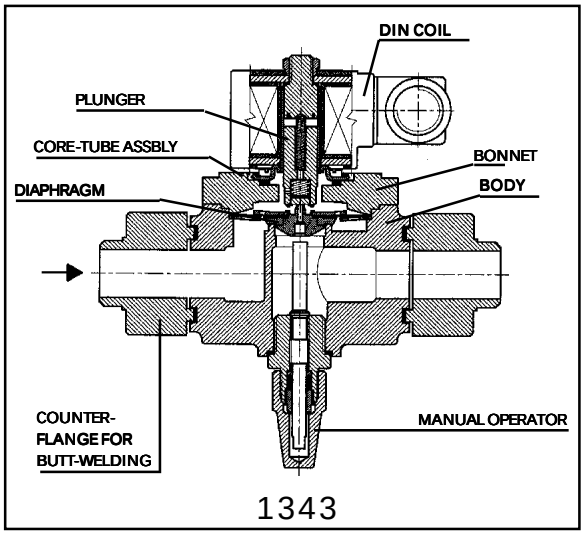
This system replaces the suction pressure regulator valve.


1343F Series


1343 Series

Principal characteristics

- Cast Body
- Steel forged flanges for welding
- Teflon seats and diaphragms
- Capsulated coils with DIN 43650 connections
- Minimum pressure differential: 0.07 BAR (1PSI) except: 1343 AT1: 0 BAR
- Maximum pressure differential: 21 BAR (300 PSI)
- Maximum working pressure : 28 BAR (406 PSI)
- Temperature range: -40°C to 110°C (-40°F to 230°F)
- Manual Operator except in 1343 AT1, optional in 1343 AT3 and 1343 AT34
- Optional: strainer 1347 incorporated



1343

Technical specifications

Size	Connection	Catalog Nr.		Kv. Coeff.	Weight *		Repair Kit code	
		w/o strainer	with strainer		w/o strainer	with strainer	w/o strainer	with strainer
1/2"	Welding Flanges	1343 AT1	1343 AT1F	0,16	1.58	2.75	K43HT1	K43HT1F
	Welding Flanges	1343 AT3	1343 AT3F	1,6	1.95	3	K43FT1	K43FT1F
3/4"	Welding Flanges	1343 AT34	1343 AT34F	2,1	2.15	4.34	K43FT3	K43FT3F
	Welding Flanges	1343 AT4	1343 AT4F	4,5	3.554	5.74	K43FT2	K43FT2F
1"	Welding Flanges	1343 AT5	1343 AT5F	6	3.28	5.64		
	Welding Flanges	1343 AT6	1343 AT6F	8	3.6	5.53	K43FT5	K43FT5F
1,1/4"	Welding Flanges	1343 AT7	1343 AT7F		3.5	5.43		

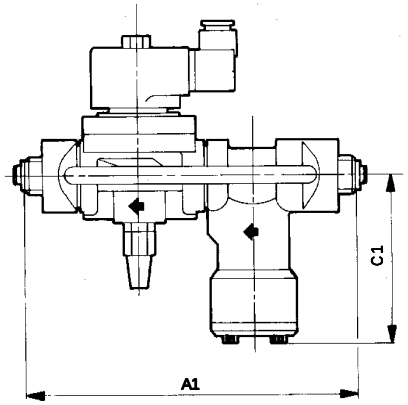
Optionals:

The manual operator is standard for sizes from 3/4» to 1.1/4»
For size 3 and 34 add the suffix M to the catalog Number.
Example: 1343 AT3-M

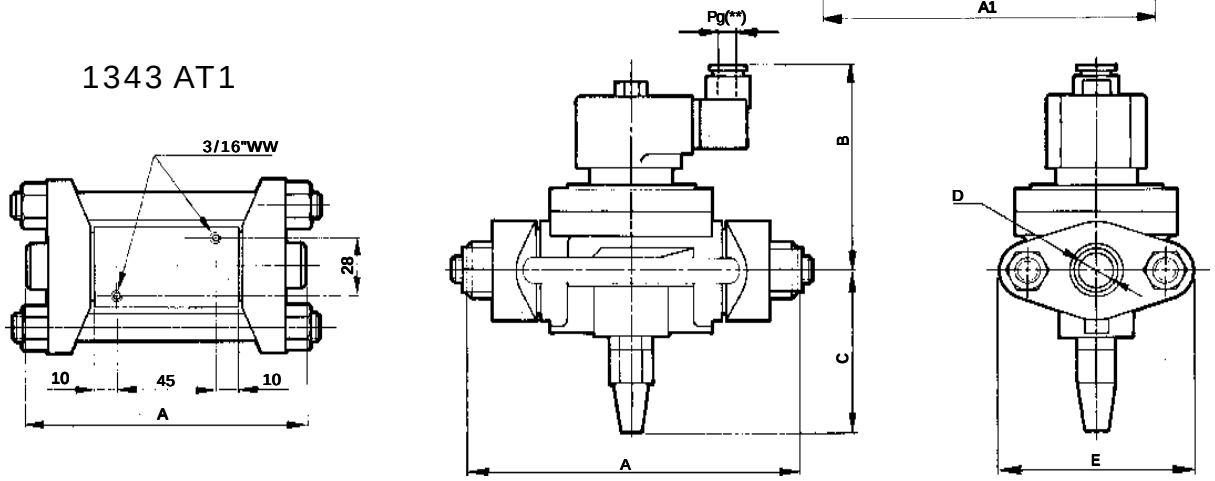
(*) The weight includes valve and coil.

Dimensions

w/o strainer	A	B	C	D	E	with strainer	G	⌀ H
1343AT1	130	95	20	ø14	80	1343AT1F	186	96
1343AT3	132	99	71	ø14	80	1343AT3F	488	
1343AT34	132	99	71	ø19.3	80	1343AT34F	188	
1343AT4	159	109	80	ø19.3	96	1343AT4F	239	126
1343AT5	159	109	80	ø26	96	1343AT5F	239	
1343AT6	157	126	76	ø26	96	1343AT6F	239	
1343AT7	157	126	76	ø32	96	1343AT7F	241	



1343 AT1



NOTES: (**) Upon request PG11 or 1/2" NPT conduit. Optional luminous indicator

Recommendations for the installation of solenoid valves

- Place a strainer immediately upstream of the valve of less than 100µ.
- Most favourable position: Upon a horizontal pipe line with the coil in the upright position

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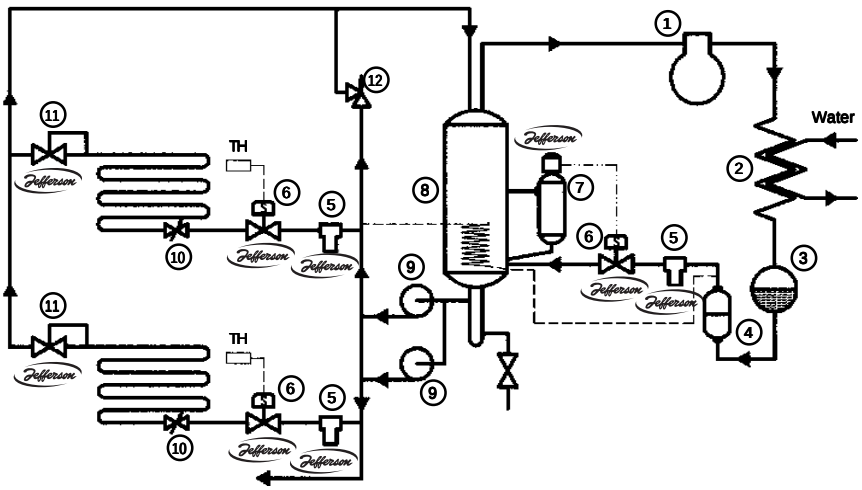
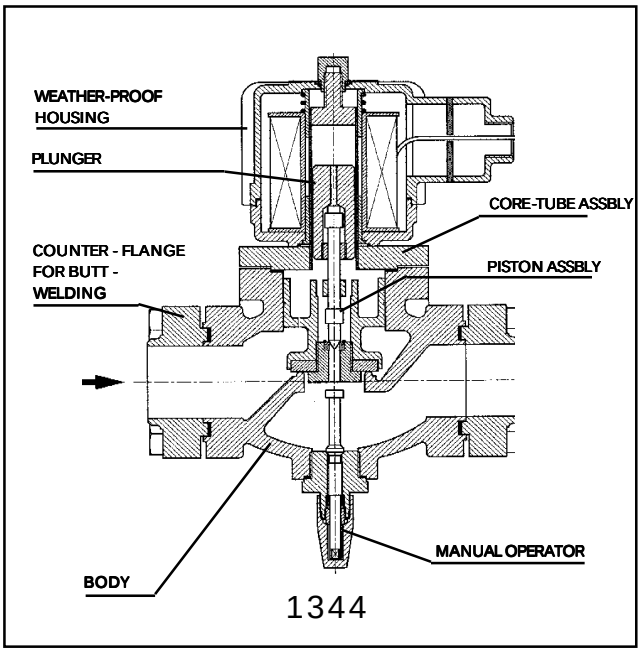
Typical circuit of refrigeration for NH_3 evaporators at different temperatures

1. Compressor
2. Condenser
3. Receiver
4. Filter-dryer
5. Strainer
6. Solenoid valve
7. Magnetic level switch
8. Separator tank
9. Pumping Station
10. Throtling Valve
11. Evaporation Pressure Regulating Valve
12. Relief valve



* Lines shown as - - - - correspond to a system without re-circulation pumps.



1344

Principal characteristics

- Cast body with flanged connections
- Counter flanges for welding in forged steel
- Stainless steel piston
- Teflon seat on the piston
- Humidity and weather - proof outlet
- Class H coil in polyester
- Maximum pressure differential:
  17 BAR (245 psi). Minimum: 0 bar
- Maximum working pressure:
  28 BAR (406 psi).
- Temperature range: -40°C to 110°C
  (-40°F to 230°F)
- Manual operator in all versions and sizes.

Technical specifications

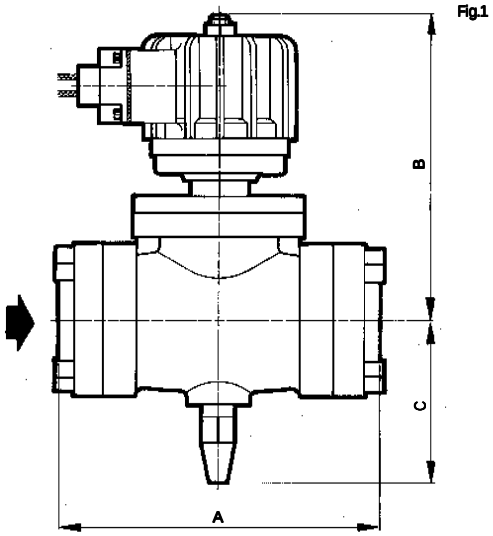
Size	Connection	Catalog Nr.	Kv. Coeff.	Weight	Repair Kit Code
3/4"	Welding Flanges (1)	1344 AT06	6	6.68	K44A1
1"	Welding Flanges (1)	1344 AT08	10	6.98	K44A2
1,1/4"	Welding Flanges	1344 AT10	15	10.4	K44A3
1,1/2"	Welding Flanges	1344 AT12	15	10.2	
2"	Welding Flanges	1344 AT16	23	12	K44A4

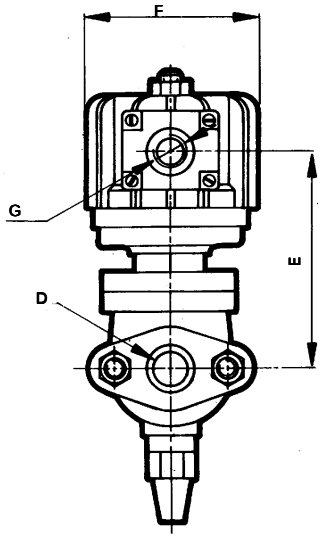
(1) Models with 1347 series strainer

Dimensions

3/4" and 1"

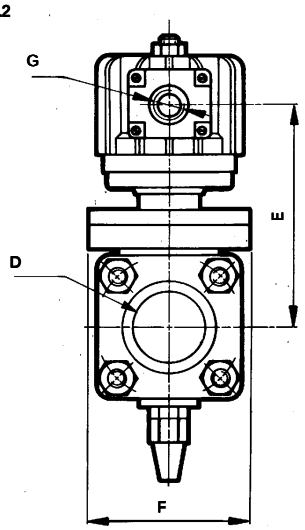
Fig.1





1,1/4" to 2"

Fig.2



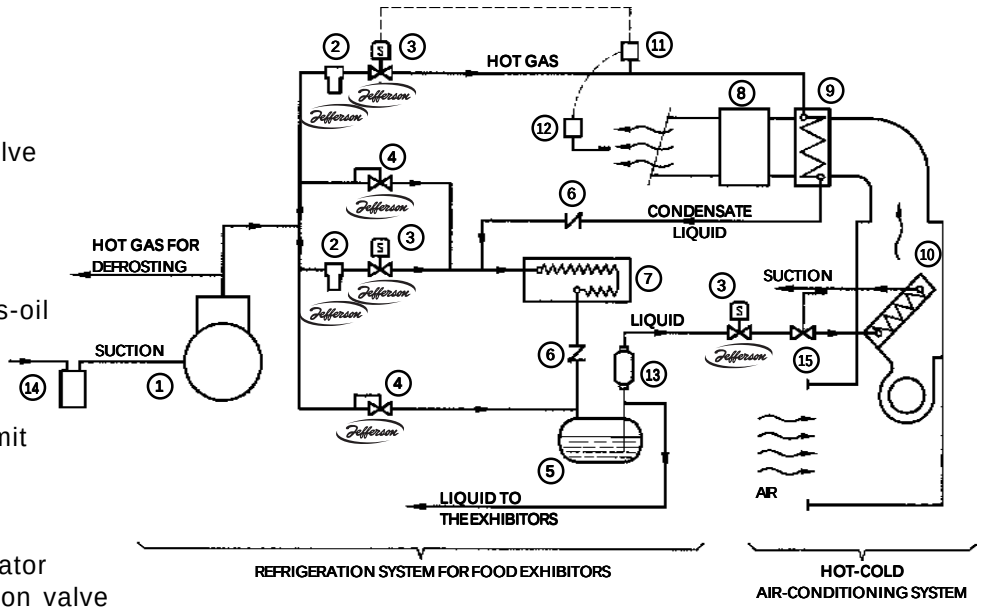
Catalog	A	B	C	D	E	F	G	Fig.
1344 AT06	170	161	85	ø¾"	119	97	R¾"NF	1
1344 AT08	184	167	85	ø1"	125	97	R¾"NF	1
1344 AT10	194	185	100	ø1¼"	143	100	R¾"NF	2
1344 AT12	194	185	100	ø1½"	143	100	R¾"NF	2
1344 AT16	206	189	103	ø2"	147	110	R¾"NF	2

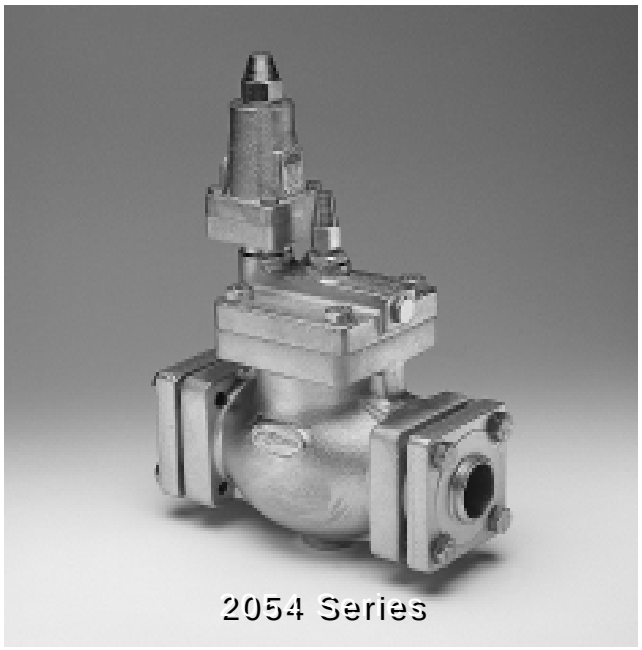
Recommendations for the installation of solenoid valves

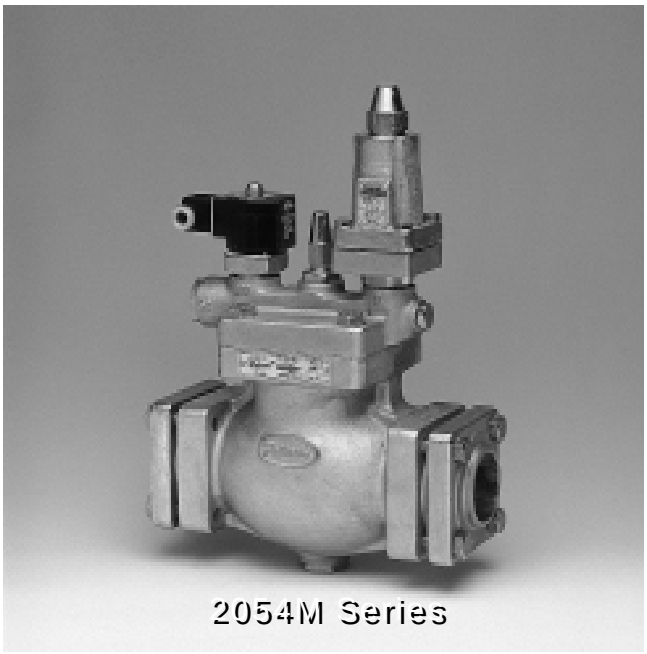
- Fit a strainer immediately upstream of the valve of less than 100µ.
- Only position:
  On a horizontal pipe line, with the coil in the upright position.

Heat loss recovery added to a typical system of refrigeration in a supermarket.

1. Compressor
2. Strainer
3. Solenoid valve
4. Pressure regulator valve
5. Receiver
6. Check valve
7. Condenser
8. Additional heater operated by gas, gas-oil or electrically
9. Heat Recuperator
10. Cooling Evaporator
11. Pressure switch to limit low pressure
12. Thermostat
13. Filter-dryer
14. Liquid Suction separator
15. Thermostatic expansion valve



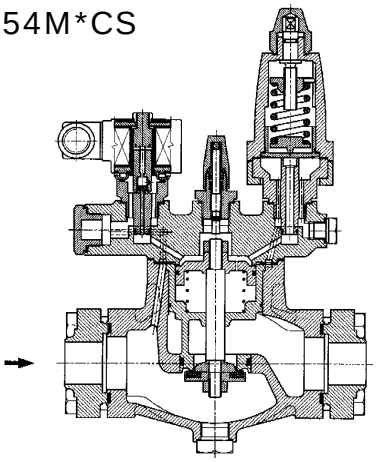

2054 Series


2054M Series

Principal characteristics

- Cast body with flanged connections
- Counter flanges in forged steel
- V-plug with Teflon seat
- Simple bonnet for an integrated pilot or connected for external pilots
- Bonnet for multiple pilots (up to 3) integrated with the valve or combined with external pilot
- Pressure differential range with solenoid pilot from 0,07 BAR (1 PSI) to 21 BAR (300 PSI)
- Pressure range with constant pressure pilot from 0,07 BAR manometric (1 PSIG) to 7 BAR (100 PSIG) Pilots available for higher pressures.
- Maximum Working Pressure: 28 bar (406 PSIG)

2054M*CS

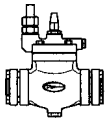
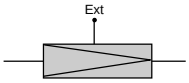
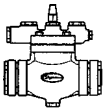
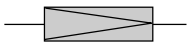
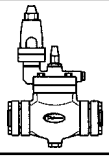
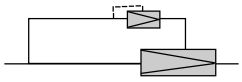
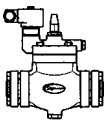
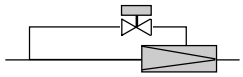
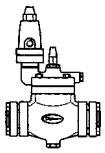
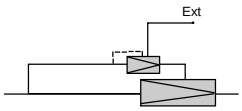
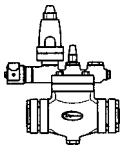
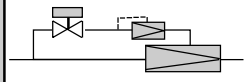
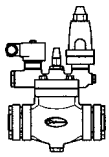
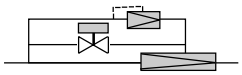
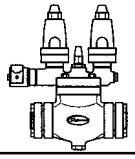
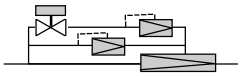
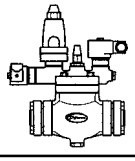
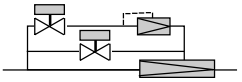
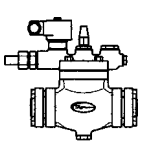
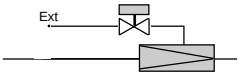
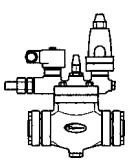
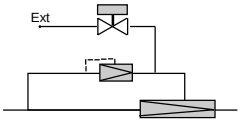


Technical specifications

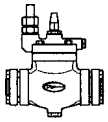
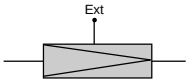
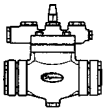
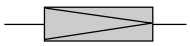
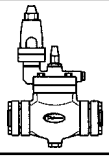
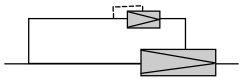
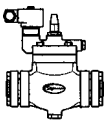
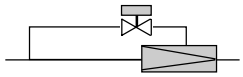
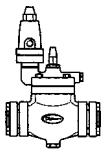
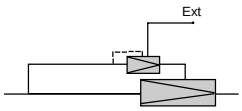
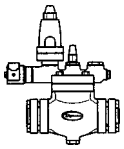
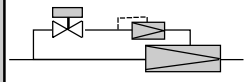
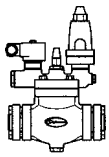
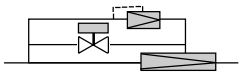
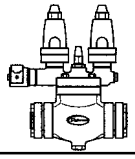
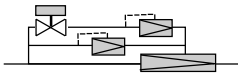
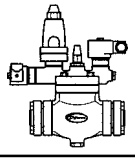
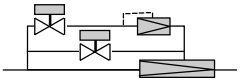
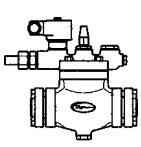
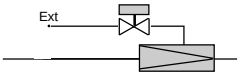
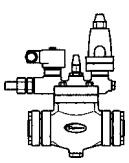
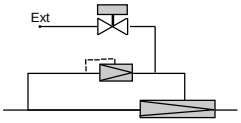
Size	Connection	Catalog Nr.		Kv. Coefficient.	Weight in Kg. (*)	Repair Kit code(4)
		Simple bonnet	Multiple bonnet			
3/4"	Welding Flanges (1)	2054-20**	2054M20**	6.6	6	K0541
1"	Welding Flanges (1)	2054-25**	2054M25**	9.6	6	
1.1/4"	Flanges (2)	2054-32**	2054M32**	16.8	10	K0542
1.1/2"	Flanges (2)	2054-40**	2054M40**	26.4	16.9	K0543
2"	Flanges (2)	2054-50**	2054M50**	33	16.6	
2.1/2"	Flanges (2)	2054-60**	2054M60**	55	16.2	K0544
3"	Flanges (3)		2054M70**	87	49	K0545
4"	Flanges (3)	2054-100**		153	105	K0546

(1) Model with 1347 series strainer
(2) Flanged body with counter flanges for welding
(3) Flanged-body without counter flanges, use ANSI 300 RF counter flanges
(4) Corresponds to a valve without pilots nor accessories
(**) Without pilots
(**) The type and quantity of pilots used see the next table

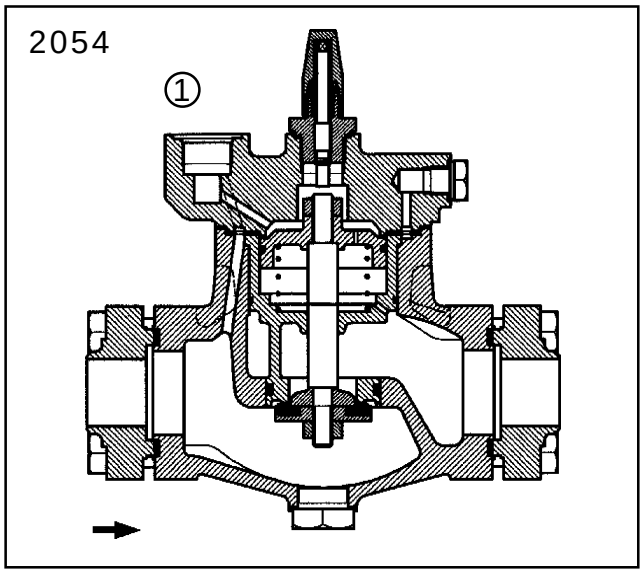
AVAILABLE VARIANTS

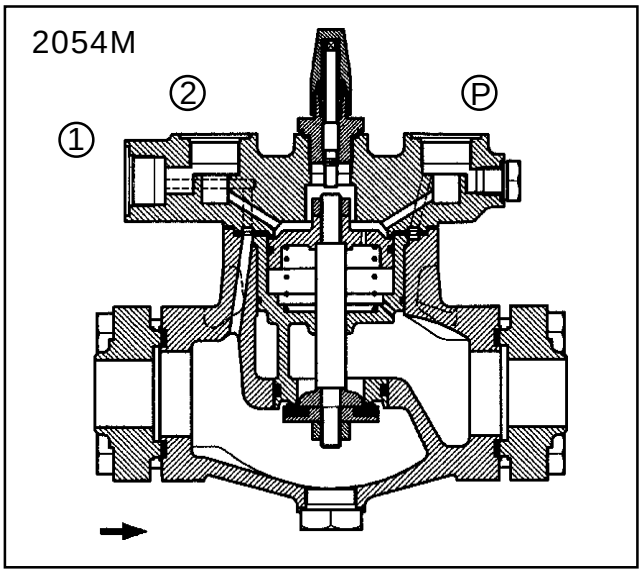
VARIANTS	SUFFIX (**)	DESCRIPTION	FUNCTION	EQUIVALENT CIRCUIT
	E Example 2054-20E	2054 valve with simple bonnet with welding flanges	The valve operates with an external pilot	
	None Example 2054M20	2054M valve with multiple bonnet	Same as above or according to the pilots that are incorporated	
	C Example 2054-20C 2054M20C	2054 or 2054M valve with constant pressure pilot incorporated	Modulating between 0,07 and 7 BAR, manometric	
	S Example 2054-20S 2054M20S	2054 or 2054M valve with solenoid pilot	On-off opens with an electrical signal	
	D Example 2054-20D 2054M20D	2054 or 2054M valve with constant pressure differential pilot	Maintains a pressure differential through the valve in the systems with pump circulation	
	SC Example 2054M20SC	2054M valve with constant pressure pilot and solenoid pilot in series	Opens with electrical signal and modulates and cioses without it	
	CS Example 2054M20CS	2054M valve with constant pressure pilot and solenoid pilot in parallel	Modulates without electrfical signal, and opens totally with it	
	2CS Example 2054M202CS	2054M valve with one solenoid pilot in series with a constant pressure pilot, plus a constant pressure pilot in parallel	With an electrical signal it modulates to a regulated pressure, and without a signal to a higher pressure	
	2SC Example 2054M202SC	2054M valve with one solenoid pilot in series with a constant pressure pilot, plus a solenoid pilot in parallel	On-Off or modulating according to the electrical signal on the two solenoids	
	ES Example 2054M20ES	2054M valve with external connection in series with the solenoid pilot	Operates with external pressure for cases with either, low or no internal pressure differential	
	ESC Example 2054M20ESC	2054M valve with external connection in series with the solenoid pilot plus a constant pressure pilot with internal signal in parallel	Allows the valve to open without pressure loss using either high gas pressure or modulating within the parameters of the constant pressure pilot	

AVAILABLE VARIANTS

VARIANTS	SUFFIX (**)	DESCRIPTION	FUNCTION	EQUIVALENT CIRCUIT
	E Example 2054-20E	2054 valve with simple bonnet with welding flanges	The valve operates with an external pilot	
	None Example 2054M20	2054M valve with multiple bonnet	Same as above or according to the pilots that are incorporated	
	C Example 2054-20C 2054M20C	2054 or 2054M valve with constant pressure pilot incorporated	Modulating between 0,07 and 7 BAR, manometric	
	S Example 2054-20S 2054M20S	2054 or 2054M valve with solenoid pilot	On-off opens with an electrical signal	
	D Example 2054-20D 2054M20D	2054 or 2054M valve with constant pressure differential pilot	Maintains a pressure differential through the valve in the systems with pump circulation	
	SC Example 2054M20SC	2054M valve with constant pressure pilot and solenoid pilot in series	Opens with electrical signal and modulates and cioses without it	
	CS Example 2054M20CS	2054M valve with constant pressure pilot and solenoid pilot in parallel	Modulates without electrfical signal, and opens totally with it	
	2CS Example 2054M202CS	2054M valve with one solenoid pilot in series with a constant pressure pilot, plus a constant pressure pilot in parallel	With an electrical signal it modulates to a regulated pressure, and without a signal to a higher pressure	
	2SC Example 2054M202SC	2054M valve with one solenoid pilot in series with a constant pressure pilot, plus a solenoid pilot in parallel	On-Off or modulating according to the electrical signal on the two solenoids	
	ES Example 2054M20ES	2054M valve with external connection in series with the solenoid pilot	Operates with external pressure for cases with either, low or no internal pressure differential	
	ESC Example 2054M20ESC	2054M valve with external connection in series with the solenoid pilot plus a constant pressure pilot with internal signal in parallel	Allows the valve to open without pressure loss using either high gas pressure or modulating within the parameters of the constant pressure pilot	

Alternative assembly of pilot on 2054 body and 2054M body from sizes 20 through 60



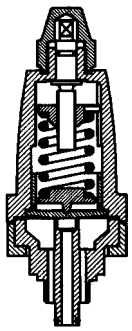


Internal pilots and accessories

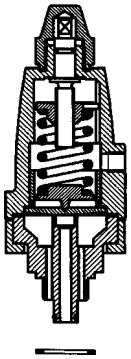
Catalog	Function	Part Nr	Weight Kg.
2054-C7	Constant pressure from 0 to 7 BAR	054C7	1.8
2054-D7	Pressure differential from 0 to 7 BAR(*)	054D7	1.8
2054-S3	On-Off solenoid from 0 to 7 BAR	054S3	0.55
2054-E	Connector for welding	054E	0.30
2054-T	Plug	054T	
2054-O	Blocks the ways	054O	

(*) The pilot pressure must not be more than 3 BAR higher than the pressure of the main fluid

Ⓒ 2054-C7



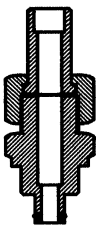
Ⓓ 2054-D7



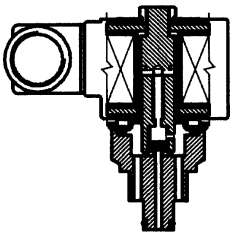
Ⓞ 2054-O

Ⓣ 2054-T

Ⓔ 2054-E



Ⓢ 2054-S3

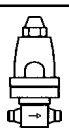
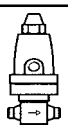
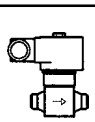
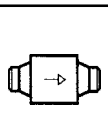


Catalog		Repair Kit
2054-C	C	K054-C/D
2054-D	D	
2054-S	S	K054-S
2054-E	E	K054-E

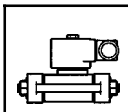
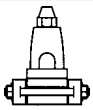
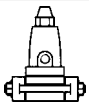
Catalog	1	2	P	Repair Kit
* 2054M-C	T	T+O	C	K054M-C/D
* 2054M-S	T	S	T+O	K054M-S
* 2054M-D	T	D	T+O	K054M-C/D
2054M-SC	S	C	T+O	K054M-SC
2054M-CS	T	S	C	K054M-CS
2054M-2CS	S	C	C	K054M-2CS
2054M-2SC	S	C	S	K054M-2SC
2054M-ES	E	S	T+O	K054M-ES
2054M-ESC	E	S	C	K054M-ESC

(*) These variants can be used in valves with the simple bonnet

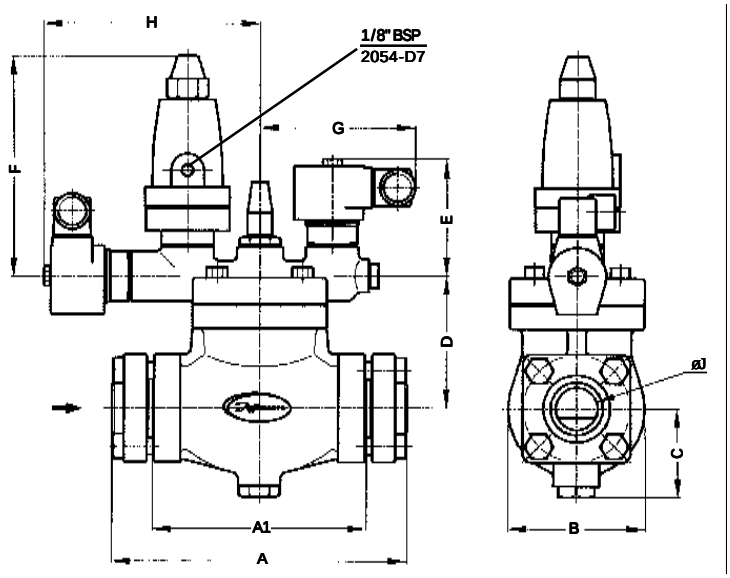
External pilots

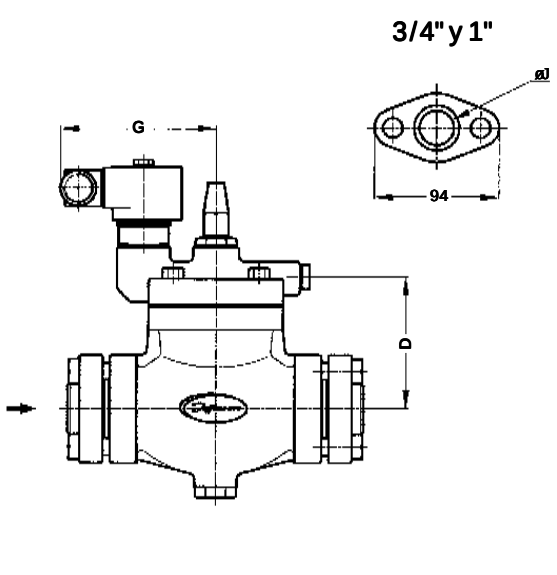
				
Catalog	2054-EC7	2054-ED7	2054-ES3	2054-ES
Part Nr	054EC7	054ED7	054ES3	4750-2
Function	Constant pressure	Differential pressure	On-Off solenoid	Part adapted for all internal pilots
Connection	ø 3/8 for welding			
Range	0-7 Bar	0-7 Bar	0-17 Bar	

External pilots

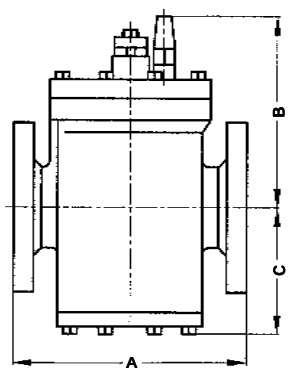
			
Catalog	1343AT1	1353PC7	1353PD7
Part Nr	43HT03B4	53FH10B4	53FH10PB4
Function	On-Off solenoid	Constant pressure	Differential pressure
Connection	ø 1/2 flanged		
Range	0-17 Bar	0-7 Bar	0-7 Bar

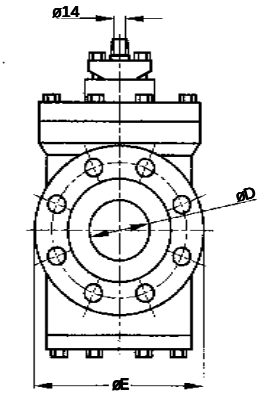
Dimensions





Catalog	DIMENSIONS (mm)									
	A	A1	B	C	D	E	F	G	H	ø J
2054M20	202	128	94	54	90	90	170	115	164	19
2054M25	202	128	94	54	90	90	170	115	164	26
2054M32	216	156	106	69	102	90	170	115	164	32
2054M40										39.5
2054M50	268	206	132	87	125	90	170	115	164	51
2054M60										63





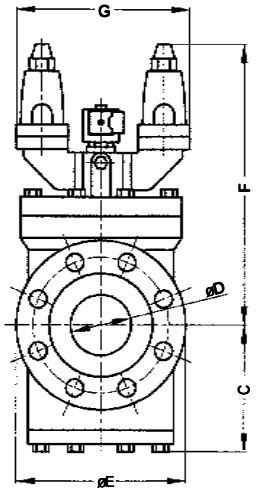
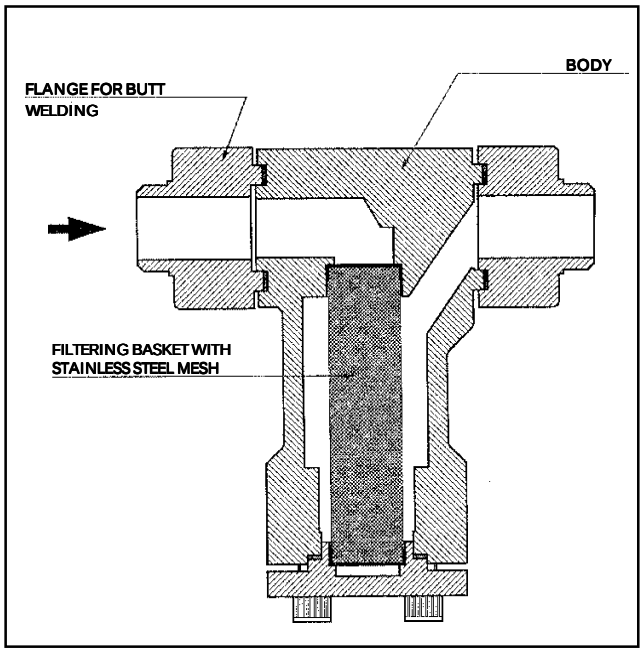


Fig. 1

Fig. 2

Catalog	DIMENSIONS (mm)							
	A	B	C	ø D	ø E	F	G	Fig.
2054M70	290	245	158	75	210			1
2054-70						350	220	2
2054-100	370	300	220	102	254			1



Principal characteristics

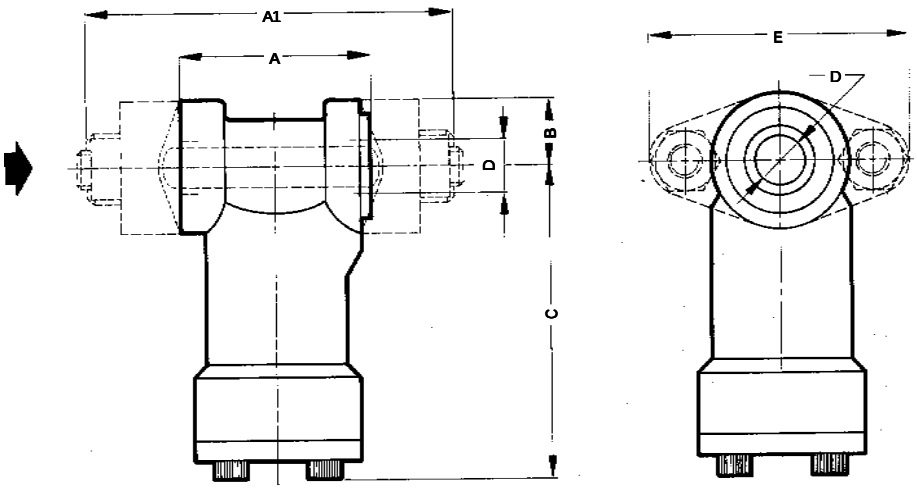
- Cast body
- Flanges for welding forged in cast steel
- The filtering basket has a stainless steel mesh
- The capacity of retention is for particles greater than 100 µ.
- Modular coupling with Jefferson solenoid valves:
  1343 Series (all sizes)
  1344 Series (connections of 3/4" and 1")

Technical specifications

Size	Connection	Catalog Nr.	Kv. Coeff.	Weight	Free Area
1/2"	Modular	134710	3.3	0.976	17 cm^2
	Flanges	134710B04		1.722	
3/4"	Modular	134720	6	1.930	27 cm^2
	Flanges	134720B06		3.156	
1"	Modular	134720		3.362	
	Flanges	134720B08			
1,1/4"	Modular	134720			
	Flanges	134720B10			

Dimensions

ØConnection	A	A_1	B	C	D	E
1/2"	57	109	r=20	95	Ø14	78
3/4"	75	139	r=26	120	Ø19	94
1"					Ø26	



2041 Series

COMPONENTS	K41T1	K041T1	K41T3
Body/Bonnet Screws	4	4	4
Plunger (Teflon)	1	1	1
Plunger's Spring	1	1	1
0-Ring	1	-	1
Teflon Diaphragm	-	1	1
Parkut	-	1	-

1344 Series

COMPONENTS	K44A1	K44A2	K44A3	K44A4
Bonnet screws	6	6	6	6
Flange gaskets	2	2	2	2
O-Ring for weather proof housing	3	3	3	3
Manual operator O-Ring	2	2	2	2
Body/Bonnet O-Ring	1	1	1	1
Manual operator gasket	1	1	1	1

1342R Series

COMPONENTS	K42T1S	K42T2S	K42T3S	K42T4S
Bonnet screws	4	4	4	4
Piston spring	1	1	1	1
Plunger	1	1	1	1
Plunger's spring	1	1	1	1
Bonnet O-Ring	1	1	1	1
Pilot orifice O-Ring	1	1	1	1
Piston Seal	1	1	1	1
Piston Expander	1	1	1	1
Bonnet/Core-Tube Gasket	1	1	1	1
Guide Plug gasket	1	1	1	1

1343 Series

COMPONENTS	K43HT1	K43FT1	K43FT2	K43FT3	K43FT5
Bonnet/Core-Tube Screws	4	4	4	4	4
Bonnet Screws	-	4	4	4	4
Plunger	1	1	1	1	1
Plunger's Spring	1	1	1	1	1
Body/Bonnet O-Ring	1	1	1	1	1
Manual operator O-Ring	-	-	3	3	3
Flange gasket	2	2	2	2	2
Diaphragm	-	1	1	1	1
Neoprene parkut	-	1	1	1	1
Manual Operator plug gasket	-	1	1	1	1

Note: Kits for valves with strainer include: 4 screws (strainer bonnet), 1 gasket for strainer's bonnet and 1 gasket for the flange add "F" suffix to the kit's code i.e. K43 FT5F flange

2054 Series

COMPONENTS	K0541 K0542	K0543 K0544	K0545 K0546
Flange Screws	4	8	-
Bonnet Screws	6	4	16
Manometer Plug Gasket	1	1	-
Body/Bonnet Gasket	1	1	2
Cage O-Ring	2	2	-
Manual Operator O-Ring	2	2	2
Flange Gaskets	2	2	-
Plug Gasket (body)	1	1	-
Manual Operator Gasket	1	1	1
Add. On-Top Flange O-Ring	-	-	1*

* Only for Kit K-0546

2054 Series (Pilots for valves with simple **bonnet**)

COMPONENTS	K054C/D	K054E	K054S
Solenoid Pilots screws (8)	-	-	4
C and D Pilots screws	4	-	-
Plunger	-	-	1
Plunger's Spring	-	-	1
C & D O-Ring	1	-	-
O'Ring	1	1	1
Parkut	-	-	1
C & D Bonnet/Cover Gasket	1	-	-
Aluminium Gasket	1	1	1
C & D Body/Bonnet Gasket	2	-	-
C & D Diaphragm	1	-	-
Connector for welding Gasket	-	1	-

2054M Series (Pilots for valves with multiple **bonnet**)

COMPONENTS	K054M2CS	K054M2SC	K054MC/D	K054MCS	K054MES	K054MESC	K054MS	K054MSC
Solenoid Pilots screws (8)	4	8	-	4	4	4	4	4
C and D Pilots screws	8	4	4	4	-	4	-	4
Plunger	1	2	-	1	1	1	1	1
Plunger'Spring	1	2	-	1	1	1	1	1
C & D O-Ring	2	1	1	1	-	1	-	1
O'Ring	3	3	2	2	3	3	2	3
Parkut	1	2	-	1	1	1	1	1
C & D Bonnet/Cover Gasket	2	1	1	1	-	1	-	1
Aluminium Gasket	3	3	3	3	3	3	3	3
C & D Body/Bonnet Gasket	4	2	2	2	-	2	-	2
C & D Diaphragm	2	1	1	1	-	1	-	1
Connector for welding Gasket	-	-	-	-	1	1	-	-

RECOMMENDATION FOR THE INSTALLATION AND MAINTENANCE OF SOLENOID VALVES

Electrical Installation.

All the coils are for continuous use or high frequency of operation and they are protected against humidity by the encapsulation or by weather proof housings.

Verify that the coil supplied with the valve is of the correct tension and current required. If not, replace it with the adequate coil without changing the valve.

The tension variation that is permitted without affecting the perfomance of the valve is of -15% to +10% of the nominal tension.

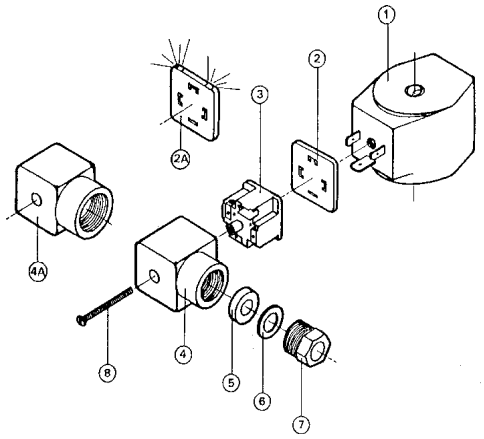
In 1344 valve series which are supplied with size "S" coils the precaution must be taken that the housing is hermetically closed and that the connection is also hermetic of the electrical circuit.

The rest of the models described in this manual are provided normally with capsulated coils with DIN 43650 (ISO 4400) connections.

Mechanical Installation.

- Verify that the working conditions are within the range of differential pressure and temperature indicated on the name plate of the valve.
- That a strainer is fitted immediately upstream of the valve with the adequate capacity and a mesh not greater than a 100 microns.
- The most favorable mounting position: on a horizontal pipe line with the coil in the upright position.
- Pipe lines upstream of the valve must be carefully and exhaustively cleaned even before a strainer, by purges with compressed air or any other system which ensure the elimination of all solid elements as well as welding bits, mud, dirt, and this happens particularly in new installations.
- Do not forget to look at the arrow indicating the flow in the body. For that, the pressure at the inlet must always be greater or equal to the outlet.

Plug-in-coils-IP65 Protection-DIN 43650 (ISO 4400)



1 COIL
2 GASKET
2 a GASKET. With luminous indicator when coil is energised code Nr.4180-8 (Upon request)
3 BLOCK WITH ELECTRICAL TERMINALS Maximum section of wiring AWG14 (1,6mm)
4 CONNECTOR WITH OPENING FOR ARMORED CABLE Strain rellef "PG9" Outside diameter of covered cable from 6 to 8 mm.
4a 1/2 NPT conduit connector (Part.Nr.3189-2) Upon request luminous connector
5 STRAIN RELIEF GASKET
6 WASHER
7 STRAIN RELIEF
8 FIXING SCREW

Instructions for the electrical connection of the coil with strain relief connector.

1 Unscrew the screw (8) to be able to get to the block (3) where the terminals are. The design is prepared to use standard cables or 3-wire armored cables "PG9". Carry out the wiring as per diagram.
2 Insert the terminal block into the connector (4) according to the entrance angle desired, within the four possible positions: Left, Right, Above, Below.
3 Insert into the terminal block the spades of the coil. Secure it with the fixing screw (8).
4 Lastly, but very important: tighten the strain relief (7) to ensure it is hermetic. Otherwise humidity ingresses and can cause a short-circuit between the terminals or reach the coil and short-circuit the windings, damaging the coil.

Instructions for the coil with conduit connector

1 Carry out the same instructions 1, 2 and 3 for connector with strain relief.
2 It is important to ensure that the interconnection is hermetic, so it is recommended to use a sealant or gasketing tape on the threads.

Coil fixing

The nut (9) that fixes the coil to the core-tube must be 5 Nm/0,5 kpm/3.75 lbf, to prevent the coil from turning round. Avoid unnecessary tensión that may damage the core-tube due to excess of torsion.

Analysis of failures.

Many times a solenoid valve fails because it is inadequately selected for a determined application.

In other cases the failure is because of the poor installation where the recommendations indicated by the manufacturer are not complied with.

In many other cases by fault of maintenance, which must be adequate according to the work or special condition to which a valve is submitted.

The majority of the failures which are seen at the beginning of a new installation are the consequence of the lack of cleanliness in the pipeline between the strainer and the valve because what has not been taken into account are the leftovers of packings, of Teflon, of welding, dirt, etc.

Jefferson offers their full sales service by telephone or fax to assist the end user in the investigation and solution of any possible failure.

To assist our customers in the following page we detail the most common problems, possible causes and their solution.

PROBLEMS AND SOLUTIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
ALWAYS MAKE SURE THAT AT ALL TIMES THE VOLTAGE ENERGY REACHES EFFECTIVELY THE TERMINALS OF THE COIL. VERIFY IN ALL CASES THAT THE FILTERING MESH OF THE STRAINER BEFORE THE VALVE IS IN GOOD CONDITION.		
1- Valve does not open when a NC is energized or a NO when de-energized	FOR DIRECT ACTING VALVES 1.1- Tension less than 15% of the nominal voltage 1.2- Too high a pressure differential for that model 1.3- Burnt coil (with the circuit open) 1.4- Plunger jammed by solids 1.5- Deteriorated plunger FOR SERVO-ASSISTED VALVES The same as above plus: 1.6- Too low pressure differential 1.7- Jammed servo-piston 1.8- Servo-piston, servo-piston rings or diaphragm damaged 1.9- Pilot orifice blocked 1.10-Pilot gasket damaged or mis aligned 1.11-Excessive viscosity	1.1.1- Check the voltage, which must not be less than 85% of the nominal tension 1.2.1- Reduce the pressure to de maximum shown on the name-plate 1.3.1- See burnt coils (point 3) 1.4.1- Clean the core-tube and the valve. If a strainer is not fitted the problem will subsist and down-time will continue 1.5.1- Replace the damaged part. The cause could be abrasion from solids in the fluid and/.or a high frequency operation over a prolonged time 1.6.1- This factor should be taken into account when choosing the model and can occur by over-sizing or because the pressure is reduced i.e closed circuit. If the pressure differential cannot be increased by increasing the flow, the valve must be replaced by a valve adequate for the service. 1.7.1- Check that solids have not affected the piston's movement. After cleaning check that is not damaged. A strainer must be fitted 1.8.1- Change the damaged part. Check that the cause is not dirt. Point 1.4.1 is applicable 1.9.1- Clean the orifice. See 1.4.1, if the orifice is damaged consult Jefferson 1.10.1-This is because of poor assembly. Change the damaged part and assemble the valve correctly. The O-ring must be correctly fitted. 1.11.1-Fluids with viscosities greater than 70 CST cannot be used with servo-design
2- The valve remains open	FOR DIRECT ACTING VALVES 2.1- The coil was not de-energized with a N.C. valve or not energized in a N.O. valve 2.2- Plunger jammed by solids FOR SERVO ASSISTED VALVES The same as above plus: 2.3- Pilot orifice does not close 2.4- Blocked bleed-orifice 2.5- Jammed servo-piston 2.6- Servo-piston, servo-piston rings or diaphragm damaged 2.7- Excessive viscosity	2.1.1- Check the circuits 2.2.1- Clean the core-tube and the valve. If a strainer is not fitted, the problem will subsist and down-time will continue 2.3.1- Check if plunger is not jammed or seats are damaged. For the first case clean the part, and in the second case change the part. If the orifice is damaged consult Jefferson 2.4.1- Clean the orifice. See 1.4.1, if the orifice is damaged consult Jefferson 2.5.1- Check that solids have not affected the piston's movement. After cleaning check that it is not damaged. A strainer must be fitted 2.6.1- Change the damaged part. Check that the cause is not dirt. Point 1.4.1 is applicable 2.7.1- Fluids with viscosities greater than 70 CST cannot be used with servo-design
3- The coil gives off a burning smell or burns out frequently	3.1- Excessive Voltage 3.2- Only for AC: Too high a pressure that does not allow the pilot to open and therefore only the inrush current is present which is double the holding current 3.3- Incorrect coil or its source is less than the nominal tension 3.4- Excessive fluid or ambient tem perature 3.5- Infiltration of humidity 3.6- A part is missing if it is not an encapsulated coil 3.7- It is energized when not fitted on the valve (AC only)	3.1.1- The voltage must not exceed 10% more than the nominal tension, and only for brief periods. Correct the voltage 3.2.1- Make sure that the maximum line pressure does not exceed the pressure indicated on the name-plate. If it is, check that the voltage is not more than 85% of the nominal tension 3.3.1- Check that the voltage supplied is the same as the voltage marked on the coil 3.4.1- The fluid, the atmosphere and the power of the coil determine the internal temperature. As a general rule, the temperature of the fluid plus the tempera ture of the atmosphere must not exceed 210°C. On the other hand, the temperature of the fluid must never exceed 180°C. In those cases handling hot fluids and the atmospheric temperature above 30°C, it is recommended that the valve be fitted in the most ventilated area. 3.5.1- In the DIN coils verify that the strain-relief unit is tight and that the wiring corresponds to the PG connector. For the "S" coils check that the housing and wiring is closed. See mounting recommendations 3.6.1- Replace the missing parts as they are part of the magnetic circuits and their absence results in an increase of the intensity which reduces the force of the magnetic pull 3.7.1- Do not energize the coil if it is not fitted on the valve stem as this will burn-out the coil by overheating
4- Coil vibrates when energized	4.1- Insufficient voltage 4.2- The surfaces of the fixed core and the plunger that come into contact are dirty or have scale	4.1.1- Adjust the tension within the permitted parameters 4.2.1- Clean or lightly grind with emory the surfaces if there is scale
5- Fluid leaking when closed	5.1- Pilot orifice or principal port damaged or dirty	5.1.1- Clean or change the seats. If the seats of the pilot orifice/port are damaged contact Jefferson
6- Operates slowly or fails sporadically	6.1- Either bleed or pilot orifice partially blocked 6.2- Excessive fluid viscosity 6.3- Line pressure too high or temporary insufficent pressure differential	6.1.1- In case of dirt, clean the orifices, if damaged consult Jefferson 6.2.1- The fluid's viscosity must not exceed 70 CST see 1.11 6.3.1- Check the pressure differential, both at the time of opening and when open; they must fall within the limits marked on the name-plate

Magnetic level switch for refrigeration

Principal characteristics

- Body of welded steel
- Sub-assembly of rod and stainless steel 304 float, with a floating coefficient of 2,5 with respect to the density of ammonia (the least dense refrigerant) to ensure its correct operation even when there is bubbling or foam.
- Shock absorber to protect the float and rod from abrupt changes of level.
- Differential of 50mm. to absorb the effects of waves caused by the sudden ingress of liquid, that results in the abnormal opening and closing of the supply upstream valve. If it is desidered to reduce the differential, unscrew the housing and lower the two upper nuts of the rod.
- Weather-proof hermetic mechanism to IP65
- Upon request: weather and explosion-proof IEC79 - IP65
- One or two mechanisms with SPDT mercury contacts or SPDT dry contacts (microswitch)
- Electrical connection: 3/4" BPS or NPT 360° rotatable
- Approximate weight: 8,7 Kgs.

Technical specifications

Catalog Nr	Contacts			Temperature ºC		Function
	Type	QTY	Max. load	Min	Max	
1349R2	Mercury	1	5A	-30	150	simple Interruptor
1349R2S	Dry	1	10A	-45	100	
1349R3	Mercury	2	5A	-30	150	double Interruptor
1349R3S	Dry	2	10A	-45	100	

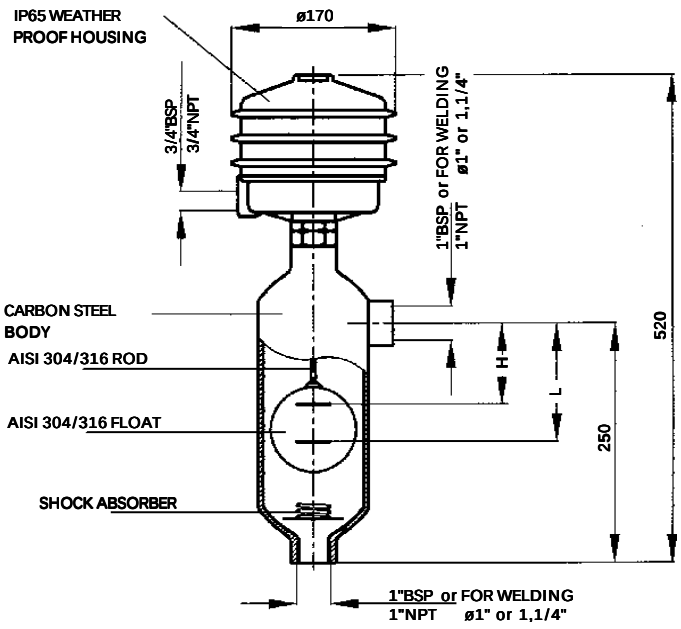
For weather and explosion-proof housing insert “Z” after the letter “R” example: 1349RZ2.

Actuation variations according to specific gravity of liquid (± 6 mm)

S.G.	0,5	0,55	0,6	0,7	0,8	0,9	1	1,1	1,2	1,3
High (H)	56	61	65	71	75	77	78	81	84	87
Low(L)	106	111	115	121	125	127	128	131	134	137

Magnetic level Switch for refrigeration

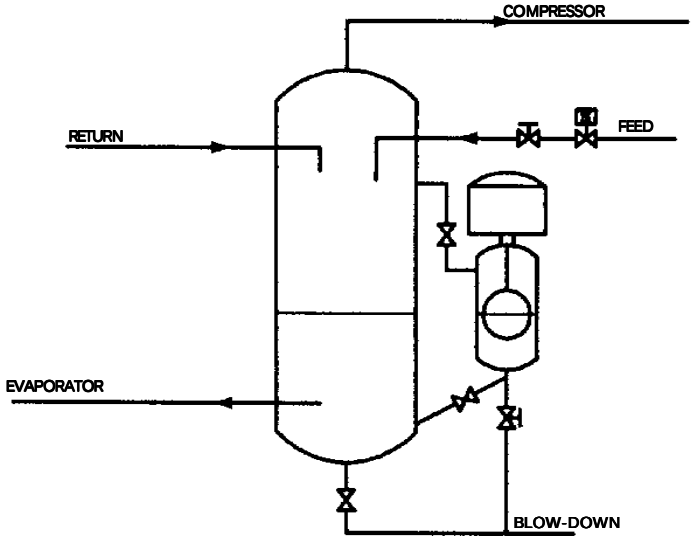
Dimensions



Recommendations for the installation

- Use a minimum pipe ø of 1" for linkage with the vessel
- The lower leg must have a downwards slope toward the separator or vessel to avoid the formation of oil plugs which difficult the level equilibrium or obstruct the free movement of the float
- Use shut off valves to be able to isolate the unit and allow the oils and muds to be blown-out
- Isolate thermally the control and/or the column on which it has been mounted, especially if they are in a hot area, to avoid the fluid from bubbling and the consequent density difference with the vessel that it controls
- Adjust the entrance of make-up liquid so that the in rush is slow to avoid waves but also make sure its enough for the maximum capacity required in the vessel

Typical Installation - Flooded evaporator separator



2-ways solenoid valves
For chloro fluorinated (CFC and HCFC)
and ecological refrigerants (HFC)

Jefferson

Liquid capacity tables in Kw.

Kw

CATALOG Nr		ΔP KPa	REFRIGERANTS R22	R134a	R404A	R507
	2041 BT2 2041 BT2S2 2041 BT2S3	15 20 30 50 100	3.23 3.73 4.56 5.89 8.33	2.99 3.46 4.23 5.46 7.73	2.20 2.54 3.11 4.01 5.67	2.17 2.50 3.06 3.96 5.59
	2041 BT3 2041 BT3S3	15 20 30 50 100	24 28 34 44 62	22 26 32 41 58	16 19 23 30 43	16 19 23 30 42
	2041 BT4 2041 BT4S4 2041 BT4S5	15 20 30 50 100	28 33 40 52 73	26 30 37 48 68	19 22 27 35 50	19 22 27 35 49
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	15 20 30 50 100	54 63 77 99 141	50 58 71 92 130	37 43 52 68 96	37 42 52 67 94
	1342 BT06 1342 BT06S6 1342 BT06S7	20 30 50 100	116 143 184 260	108 132 171 241	79 97 125 177	78 96 124 175
	1342 BT08S9 1342 BT08S11	20 30 50 100	256 314 405 573	238 291 376 531	174 214 276 390	172 211 272 385
	1342 BT12S13 1342 BT12S17	20 30 50 100	582 713 921 1312	540 661 854 1207	396 486 627 887	391 479 618 874
	1342 BT16S17	20	932	864	634	625
	1342 BT16S21	30 50 100	1141 1473 2083	1058 1366 1932	777 1003 1418	766 989 1398

All capacities are calculated with an upstream temperature of +25°C and an evaporation temperature of -10°C

CORRECTION FACTOR

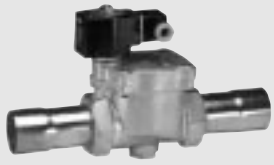
For capacities in other conditions, use the correction factor:

CONDEN. TEMP.	REFRIGERANTS R22	R134a	R404a	R507
20 °C	1.04	1.05	1.08	1.07
25 °C	1.00	1.00	1.00	1.00
30 °C	0.95	0.95	0.92	0.93
35 °C	0.91	0.89	0.84	0.86
40 °C	0.86	0.84	0.76	0.78

EVAPOR. TEMP.	REFRIGERANTS R22	R134a	R404a	R507
+10 °C	1.04	1.07	1.09	1.09
+5 °C	1.03	1.06	1.07	1.07
0 °C	1.02	1.04	1.05	1.04
-5 °C	1.01	1.02	1.02	1.02
-10 °C	1.00	1.00	1.00	1.00
-20 °C	.098	0.96	0.95	0.95
-30 °C	0.95	0.92	0.90	0.91
-40 °C	0.92	0.88	0.85	

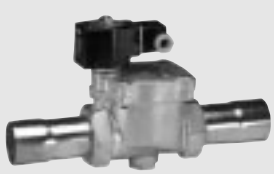
Capacity tables for vapour suction in Kw.

Kw

CATALOG Nr		ΔP KPa	EVAPORATION TEMPERATURE IN ºC							
			10	5	0	-5	-10	-20	-30	-40
	2041 BT2 2041 BT2S2 2041 BT2S3	10 20 30 40	0.42 0.59 0.72 0.83	0.39 0.55 0.66 0.76	0.37 0.55 0.63 0.69	0.32 1.45 0.55 0.63	0.29 0.41 0.50 0.56	0.24 0.33 0.40 0.45	0.19 0.26 0.31 0.34	0.15 0.20 0.23 0.25
	2041 BT3 2041 BT3S3	10 20 30 40	3.2 4.5 5.4 6.2	2.9 4.1 5.0 5.7	2.8 4.1 4.7 5.2	2.4 3.4 4.1 4.7	2.2 3.1 3.7 4.2	1.8 2.5 3.0 3.4	1.4 2.0 2.3 2.6	1.1 1.5 1.7 1.9
	2041 BT4 2041 BT4S4 2041 BT4S5	10 20 30 40	3.7 5.2 6.3 7.2	3.4 4.8 5.8 6.6	3.3 4.8 5.5 6.0	2.8 4.0 4.8 5.5	2.6 3.8 4.3 4.9	2.1 2.9 3.5 3.9	1.7 2.3 2.7 3.0	1.3 1.7 2.0 2.2
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	10 20 30 40	7.1 10.0 12.2 14.0	6.6 9.2 11.2 12.8	6.3 9.3 10.7 11.6	5.5 7.6 9.2 10.6	5.0 6.9 8.4 9.5	4.0 5.6 6.7 7.6	3.2 4.4 5.2 5.8	2.5 3.4 3.9 4.2
	1342 BT06 1342 BT06S6 1342 BT06S7	20 30 40	18.6 22.6 25.9	17.0 20.7 23.7	17.2 19.8 21.6	14.2 17.1 19.5	12.8 15.5 17.6	10.4 12.4 14.0	8.2 9.7 10.8	6.2 7.1 7.8
	1342 BT08S9 1342 BT08S11	20 30 40	41 50 57	37 45 52	38 44 47	31 38 43	28 34 39	23 27 31	18 21 24	14 16 17
	1342 BT12S13 1342 BT12S17	20 30 40	93 113 129	85 103 118	86 99 108	71 86 98	64 77 88	52 62 70	41 48 54	31 36 39
	1342 BT16S17 1342 BT16S21	20 30 40	149 181 207	136 165 189	138 158 173	113 137 156	103 124 141	83 99 112	66 77 86	50 57 62

R 134a

Kw

CATALOG Nr		ΔP KPa	EVAPORATION TEMPERATURE IN ºC							
			10	5	0	-5	-10	-20	-30	-40
	2041 BT2 2041 BT2S2 2041 BT2S3	10 20 30 40	0.34 0.47 0.57 0.65	0.30 0.42 0.51 0.58	0.27 0.38 0.46 0.52	0.24 0.34 0.41 0.46	0.22 0.30 0.36 0.40	0.17 0.23 0.27 0.30	0.13 0.17 0.19 0.20	0.09 0.12
	2041 BT3 2041 BT3S3	10 20 30 40	2.5 3.5 4.3 4.9	2.3 3.2 3.8 4.4	2.0 2.9 3.4 3.9	1.8 2.5 3.0 3.4	1.6 2.3 2.7 3.0	1.3 1.7 2.0 2.2	1.0 1.3 1.4 1.5	0.7 0.9
	2041 BT4 2041 BT4S4 2041 BT4S5	10 20 30 40	2.9 4.1 5.0 5.7	2.7 3.7 4.5 5.1	2.4 3.3 4.0 4.5	2.1 3.0 3.5 4.0	1.9 2.6 3.1 3.5	1.5 2.0 2.4 2.6	1.1 1.5 1.6 1.7	0.8 1.0
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	10 20 30 40	5.7 7.9 9.6 10.9	5.1 7.2 8.6 9.8	4.6 6.4 7.7 8.7	4.1 5.7 6.8 7.7	3.7 5.1 6.0 6.8	2.9 3.9 4.5 5.0	2.2 2.9 3.2 3.4	1.5 2.0
	1342 BT06 1342 BT06S6 1342 BT06S7	20 30 40	14.7 17.8 20.2	13.2 16.0 18.2	11.9 14.3 16.2	10.6 12.7 14.3	9.4 11.2 12.5	7.2 8.4 9.3	5.3 5.9 6.2	3.6
	1342 BT08S9 1342 BT08S11	20 30 40	32 39 45	29 35 40	26 31 36	23 28 31	21 25 28	16 19 20	12 13 14	8
	1342 BT12S13 1342 BT12S17	20 30 40	73 89 101	66 60 91	59 71 81	53 63 71	47 56 63	36 42 46	27 29 31	18
	1342 BT16S17 1342 BT16S21	20 30 40	118 142 162	106 128 145	95 114 129	85 101 114	75 89 100	58 67 74	43 47 50	29

All capacities are calculated with a temperature before the valve of +25°C and an evaporating temperature of -10°C

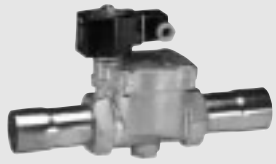
For capacities in other temperatures, use the following correction factor:

R22	CONDENSING TEMPERATURE	15	20	25	30	35	40
	CORRECTION FACTOR	1.07	1.04	1.00	0.96	0.93	0.89
R134a	CONDENSING TEMPERATURE	15	20	25	30	35	40
	CORRECTION FACTOR	1.08	1.04	1.00	0.96	0.91	0.87

Capacity tables for vapour suction in Kw

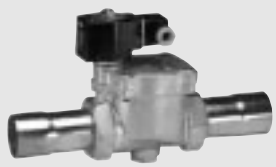
R 404a

Kw

CATALOG Nr		ΔP KPa	EVAPORATIÓN TEMPERATURE IN °C							
			10	5	0	-5	-10	-20	-30	-40
	2041 BT2 2041 BT2S2 2041 BT2S3	10 20 30 40	0.38 0.54 0.66 0.75	0.35 0.49 0.59 0.68	0.32 0.44 0.54 0.61	0.28 0.40 0.46 0.55	0.26 0.36 0.43 0.49	0.20 0.28 0.34 0.38	0.16 0.22 0.26 0.29	0.12 0.18 0.19 0.21
	2041 BT3 2041 BT3S3	10 20 30 40	2.9 4.0 4.9 5.6	2.6 3.7 4.5 5.1	2.4 3.3 4.0 4.6	2.1 3.0 3.6 4.1	1.9 2.7 3.2 3.7	1.5 2.1 2.5 2.9	1.2 1.6 1.9 2.2	0.9 1.2 1.4 1.5
	2041 BT4 2041 BT4S4 2041 BT4S5	10 20 30 40	3.4 4.7 5.7 6.6	3.0 4.3 5.2 6.0	2.8 3.9 4.7 5.4	2.5 3.5 4.2 4.8	2.2 3.1 3.8 4.3	1.8 2.5 3.0 3.4	1.4 1.9 2.3 2.6	1.0 1.4 1.6 1.8
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	10 20 30 40	6.5 9.1 11.1 12.7	5.9 8.2 10.0 11.5	5.3 7.5 9.1 10.4	4.8 6.7 8.1 9.3	4.3 6.0 7.3 8.3	3.4 4.8 5.7 6.5	2.7 3.7 4.4 4.9	2.0 2.7 3.1 3.5
	1342 BT06 1342 BT06S6 1342 BT06S7	20 30 40	16.8 20.5 23.5	15.3 18.6 21.3	13.8 16.8 19.2	12.4 15.1 17.2	11.1 13.5 15.4	8.8 10.6 12.0	6.8 8.1 9.1	5.0 5.8 6.4
	1342 BT08S9 1342 BT08S11	20 30 40	37.0 45.0 52.0	34.0 41.0 47.0	30 37 42	27 33 38	25 30 34	19 23 26	15 18 20	11 13 14
	1342 BT12S13 1342 BT12S17	20 30 40	84 102 118	76 93 106	69 84 96	62 75 86	56 67 77	44 53 60	34 41 46	25 29 32
	1342 BT16S17 1342 BT16S21	20 30 40	135 164 188	122 148 170	110 134 154	100 121 138	89 108 123	71 85 96	55 65 73	40 47 51

R 507

Kw

CATALOG Nr		ΔP KPa	EVAPORATIÓN TEMPERATURE IN °C						
			10	5	0	-5	-10	-20	-30
	2041 BT2 2041 BT2S2 2041 BT2S3	10 20 30 40	0.39 0.55 0.67 0.77	0.35 0.50 0.61 0.70	0.32 0.45 0.55 0.64	0.29 0.41 0.50 0.58	0.26 0.37 0.45 0.52	0.21 0.29 0.36 0.41	0.16 0.23 0.26 0.32
	2041 BT3 2041 BT3S3	10 20 30 40	2.9 4.1 5.0 5.8	2.7 3.7 4.6 5.3	2.4 3.4 4.1 4.8	2.2 3.1 3.7 4.3	2.0 2.7 3.4 3.9	1.6 2.2 2.7 3.1	1.2 1.7 2.1 2.4
	2041 BT4 2041 BT4S4 2041 BT4S5	10 20 30 40	3.4 4.8 5.9 6.8	3.1 4.4 5.3 6.2	2.8 3.9 4.8 5.6	2.5 3.6 4.4 5.0	2.3 3.2 3.9 4.5	1.8 2.5 3.1 3.6	1.4 2.0 2.4 2.6
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	10 20 30 40	6.6 9.2 11.3 13.1	6.0 8.4 10.3 11.9	5.4 7.6 9.3 10.8	4.9 6.9 8.4 9.7	4.4 6.2 7.6 8.7	3.5 4.9 6.0 6.9	2.6 3.6 4.7 5.4
	1342 BT06 1342 BT06S6 1342 BT06S7	20 30 40	17.1 21.0 24.2	15.6 19.1 22.0	14.1 17.3 19.9	12.7 15.6 18.0	11.4 14.0 16.1	9.1 11.1 12.9	7.0 8.6 10.0
	1342 BT08S9 1342 BT08S11	20 30 40	37.7 46.1 53.3	34.3 42.0 48.5	31.0 38.0 43.9	28.0 34.3 39.6	25.1 30.8 35.5	20.0 24.5 28.3	15.5 19.0 21.9
	1342 BT12S13 1342 BT12S17	20 30 40	86 105 121	78 95 110	71 86 100	64 78 90	57 70 81	45 56 64	35 43 50
	1342 BT16S17 1342 BT16S21	20 30 40	137 168 194	125 153 176	113 138 160	102 125 144	91 112 129	73 89 103	58 69 80

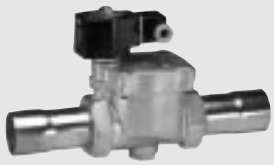
All capacities are calculated with a temperature before the valve or +25°C and an evaporating temperature of -10°C

For capacities in other temperatures, use the following correction factor:

R404a	CONDENSING TEMPERATURE	15	20	25	30	35	40
	CORRECTION FACTOR	1.13	1.06	1.00	0.94	0.86	0.81
R507	CONDENSING TEMPERATURE	15	20	25	30	35	40
	CORRECTION FACTOR	1.08	1.04	1.00	0.96	0.91	0.87

Capacity tables for hot gas

Kw

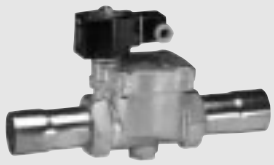
CATALOG Nr		T.Cond. °C	PRESSURE DIFFERENTIAL IN KPa. 10	20	40	80	160	320	640
	2041 BT2 2041 BT2S2 2041 BT2S3	25	0.476	0.670	0.941	1.310	1.792	2.347	2.652
		30	0.490	0.690	0.969	1.352	1.859	2.463	2.922
		35	0.501	0.707	0.994	1.389	1.916	2.563	3.144
		40	0.512	0.722	1.016	1.422	1.968	2.654	3.337
	2041 BT3 2041 BT3S3	25	3.57	5.03	7.06	9.83	13.44	17.60	19.89
		30	3.67	5.18	7.27	10.14	13.94	18.48	21.91
		35	3.76	5.30	7.45	10.42	14.37	19.22	23.58
		40	3.84	5.42	7.62	10.67	14.76	19.91	25.03
	2041 BT4 2041 BT4S4 2041 BT4S5	25	4.16	5.87	8.23	11.46	15.68	20.54	23.20
		30	4.28	6.04	8.48	11.83	16.26	21.56	25.57
		35	4.39	6.18	8.69	12.15	16.76	22.43	27.51
		40	4.48	6.32	8.89	12.45	17.22	23.22	29.20
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	8.0	11.3	15.9	22.1	30.2	39.6	44.7
		30	8.3	11.6	16.4	22.8	31.4	41.6	49.3
		35	8.5	11.9	16.8	23.4	32.3	43.3	53.1
		40	8.6	12.2	17.2	24.0	33.2	44.8	56.3
	1342 BT06 1342 BT06S6 1342 BT06S7	25	14.9	21.0	29.4	40.9	56	73	83
		30	15.3	21.6	30.3	42.3	58	77	91
		35	15.7	22.1	31.1	43.4	60	80	98
		40	16.0	22.6	31.8	44.5	62	83	104
	1342 BT08S9 1342 BT08S11	25	32.7	46.1	65	90	123	161	182
		30	33.7	47.4	67	93	128	169	201
		35	34.5	48.6	68	95	132	176	216
		40	35.2	49.7	70	98	135	182	229
	1342 BT12S13 1342 BT12S17	25	74	105	147	205	280	367	414
		30	76	108	151	211	290	385	457
		35	78	110	155	217	299	401	491
		40	80	113	159	222	308	415	521
	1342 BT16S17 1342 BT16S21	25	119	168	235	328	448	587	663
		30	122	173	242	338	465	616	730
		35	125	177	248	347	479	641	786
		40	128	181	254	356	492	664	834

All capacities are calculated with a temperature before the valve corresponding to the temperature of condensation a superheat of +25°C and an evaporating temperature of -10°C

For capacities in other temperatures, use the following correction factor:

EVAPORATING TEMPERATURE	10	0	-10	-20	-30	-40
CORRECTION FACTOR	1.05	1.02	1.00	0.97	0.95	0.92

Kg/s

CATALOG Nr		T.Cond. °C	PRESSURE DIFFERENTIAL IN KPa. 50	100	200	300	400	500	600
	2041 BT2 2041 BT2S2 2041 BT2S3	25	0.005	0.007	0.010	0.011	0.012	0.012	0.012
		30	0.006	0.008	0.010	0.012	0.013	0.014	0.014
		35	0.006	0.008	0.011	0.013	0.015	0.016	0.016
		40	0.006	0.009	0.012	0.014	0.016	0.017	0.018
	2041 BT3 2041 BT3S3	25	0.040	0.050	0.066	0.073	0.081	0.081	0.081
		30	0.040	0.055	0.073	0.084	0.091	0.093	0.093
		35	0.043	0.059	0.080	0.093	0.101	0.105	0.105
		40	0.046	0.063	0.086	0.101	0.111	0.117	0.120
	2041 BT4 2041 BT4S4 2041 BT4S5	25	0.047	0.064	0.086	0.099	0.106	0.109	0.109
		30	0.050	0.069	0.093	0.108	0.117	0.123	0.123
		35	0.053	0.074	0.100	0.117	0.129	0.136	0.140
		40	0.057	0.079	0.108	0.127	0.141	0.150	0.156
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	0.090	0.124	0.165	0.190	0.204	0.210	0.210
		30	0.096	0.133	0.179	0.208	0.227	0.237	0.237
		35	0.103	0.143	0.193	0.226	0.249	0.263	0.271
		40	0.110	0.152	0.208	0.245	0.271	0.289	0.301
	1342 BT06 1342 BT06S6 1342 BT06S7	25	0.166	0.229	0.308	0.352	0.378	0.389	0.389
		30	0.178	0.246	0.332	0.386	0.419	0.438	0.438
		35	0.190	0.264	0.358	0.419	0.461	0.487	0.502
		40	0.203	0.282	0.385	0.453	0.502	0.536	0.558
	1342 BT08S9 1342 BT08S11	25	0.366	0.504	0.674	0.775	0.832	0.855	0.855
		30	0.392	0.542	0.730	0.848	0.923	0.964	0.984
		35	0.419	0.581	0.786	0.922	1.013	1.072	1.103
		40	0.447	0.621	0.847	0.997	1.104	1.179	1.227
	1342 BT12S13 1342 BT12S17	25	0.831	1.145	1.531	1.760	1.891	1.943	1.943
		30	0.890	1.231	1.660	1.928	2.097	2.192	2.192
		35	0.952	1.320	1.791	2.096	2.303	2.436	2.508
		40	1.015	1.411	1.924	2.267	2.509	2.679	2.789
	1342 BT16S17 1342 BT16S21	25	1.329	1.832	2.449	2.817	3.026	3.109	3.109
		30	1.425	1.970	2.656	3.084	3.356	3.507	3.507
		35	1.523	2.112	2.865	3.354	3.685	3.896	4.012
		40	1.624	2.257	3.079	3.627	4.015	4.286	4.462

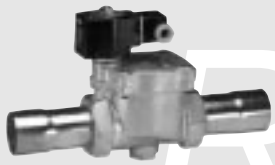
All capacities are calculated with a temperature before the valve of 90°C

For capacities in other temperatures, use the following correction factor:

TEMPERATURE BEFORE THE VALVE IN °C	60	70	80	90
CORRECTION FACTOR	1.04	1.03	1.02	1

Capacity tables for hot gas

Kw

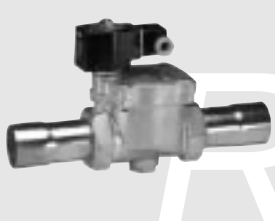
CATALOG Nr	T.Cond. ºC	PRESSURE DIFFERENTIAL IN KPa. 10	20	40	80	160	320	640
 2041 BT2 2041 BT2S2 2041 BT2S3	25	0.380	0.534	0.745	1.023	1.355	1.617	1.617
	30	0.387	0.544	0.760	1.048	1.403	1.733	1.733
	35	0.395	0.556	0.778	1.077	1.453	1.840	1.839
	40	0.401	0.564	0.791	1.097	1.491	1.924	1.923
2041 BT3 2041 BT3S3	25	2.85	4.01	5.59	7.67	10.16	12.13	12.13
	30	2.90	4.08	5.70	7.86	10.52	12.99	13.00
	35	2.96	4.17	5.83	8.07	10.90	13.80	13.80
	40	3.01	4.23	5.93	8.23	11.19	14.43	14.43
2041 BT4 2041 BT4S4 2041 BT4S5	25	3.33	4.67	6.52	8.95	11.85	14.15	14.15
	30	3.39	4.76	6.65	9.17	12.28	15.16	15.17
	35	3.46	4.86	6.81	9.42	12.72	16.10	16.09
	40	3.51	4.94	6.92	9.60	13.05	16.83	16.83
2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	6.4	9.0	12.6	17.3	22.9	27.3	27.3
	30	6.5	9.2	12.8	17.7	23.7	29.2	29.3
	35	6.7	9.4	13.1	18.2	24.5	31.0	31.0
	40	6.8	9.5	13.3	18.5	25.2	32.5	32.5
 1342 BT06 1342 BT06S6 1342 BT06S7	25	12	17	23	32	42	51	51
	30	12	17	24	33	44	54	54
	35	12	17	24	34	45	57	57
	40	13	18	25	34	47	60	60
1342 BT08S9 1342 BT08S11	25	26	37	51	70	93	111	111
	30	27	37	52	72	96	119	119
	35	27	38	53	74	100	126	126
	40	28	39	54	75	103	132	132
1342 BT12S13 1342 BT12S17	25	59	83	116	160	212	253	253
	30	60	85	119	164	219	271	271
	35	62	87	122	168	227	287	287
	40	63	88	124	171	233	301	301
1342 BT16S17 1342 BT16S21	25	95	134	186	256	339	404	404
	30	97	136	190	262	351	433	433
	35	99	139	194	269	363	460	460
	40	100	141	198	274	373	481	481

All capacities are calculated with a temperature before the valve corresponding to the temperature of condensation a superheat of +25°C and an evaporating temperature of -10°C

For capacities in other temperatures, use the following correction factor:

EVAPORATING TEMPERATURE	10	0	-10	-20	-30	-40
CORRECTION FACTOR	1.08	1.04	1	0.96	0.92	0.87

Kg/s

CATALOG Nr	T.Cond. ºC	PRESSURE DIFFERENTIAL IN KPa. 50	100	200	300	400	500	600
 2041 BT2 2041 BT2S2 2041 BT2S3	25	0.0045	0.0061	0.0078	0.0083	0.0083	0.0083	0.0083
	30	0.0049	0.0067	0.0086	0.0095	0.0096	0.0096	0.0096
	35	0.0053	0.0072	0.0095	0.0106	0.0111	0.0111	0.0111
	40	0.0057	0.0078	0.0104	0.0118	0.0125	0.0127	0.0127
2041 BT3 2041 BT3S3	25	0.034	0.046	0.058	0.062	0.062	0.062	0.062
	30	0.037	0.050	0.065	0.071	0.072	0.072	0.072
	35	0.040	0.054	0.071	0.080	0.083	0.083	0.083
	40	0.043	0.059	0.078	0.088	0.094	0.062	0.095
2041 BT4 2041 BT4S4 2041 BT4S5	25	0.040	0.053	0.068	0.073	0.073	0.073	0.073
	30	0.043	0.058	0.075	0.083	0.084	0.084	0.084
	35	0.046	0.063	0.083	0.093	0.097	0.097	0.097
	40	0.050	0.068	0.091	0.103	0.110	0.111	0.111
2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	0.076	0.103	0.131	0.140	0.140	0.140	0.140
	30	0.083	0.112	0.145	0.160	0.162	0.162	0.162
	35	0.089	0.122	0.160	0.180	0.167	0.187	0.187
	40	0.096	0.132	0.175	0.199	0.212	0.214	0.214
 1342 BT06 1342 BT06S6 1342 BT06S7	25	0.141	0.191	0.242	0.260	0.260	0.260	0.260
	30	0.153	0.208	0.269	0.296	0.300	0.300	0.300
	35	0.165	0.226	0.296	0.333	0.346	0.347	0.347
	40	0.178	0.244	0.324	0.369	0.392	0.397	0.397
1342 BT08S9 1342 BT08S11	25	0.311	0.420	0.533	0.572	0.572	0.572	0.572
	30	0.337	0.458	0.592	0.652	0.660	0.660	0.660
	35	0.363	0.497	0.652	0.732	0.762	0.762	0.762
	40	0.391	0.537	0.712	0.811	0.862	0.874	0.874
1342 BT12S13 1342 BT12S17	25	0.707	0.955	1.212	1.299	1.300	1.300	1.300
	30	0.766	1.041	1.346	1.482	1.499	1.500	1.500
	35	0.826	1.129	1.481	1.663	1.732	1.733	1.733
	40	0.888	1.219	1.618	1.843	1.959	1.986	1.986
1342 BT16S17 1342 BT16S21	25	1.132	1.527	1.941	2.078	2.080	2.080	2.080
	30	1.225	1.665	2.154	2.371	2.399	2.400	2.400
	35	1.321	1.806	2.370	2.660	2.771	2.772	2.772
	40	1.421	1.951	2.588	2.949	3.134	3.177	3.177

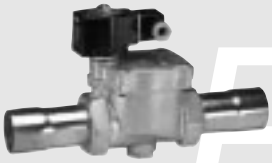
All capacities are calculated with a temperature before the valve of 90°C

For capacities in other temperatures, use the following correction factor:

TEMPERATURE BEFORE THE VALVE IN ºC	60	70	80	90
CORRECTION FACTOR	1.04	1.03	1.02	1

Capacity tables for hot gas

Kw

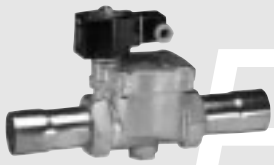
CATALOG Nr		T.Cond. °C	PRESSURE DIFFERENTIAL IN KPa. 10	20	40	80	160	320	640
	2041 BT2 2041 BT2S2 2041 BT2S3	25	0.412	0.581	0.815	1.14	1.56	2.05	1.75
		30	0.410	0.578	0.812	1.13	1.56	2.08	1.83
		35	0.406	0.572	0.805	1.13	1.55	2.09	1.89
		40	0.395	0.557	0.784	1.10	1.52	2.06	2.61
	2041 BT3 2041 BT3S3	25	3.09	4.35	6.11	8.52	11.67	15.38	13.09
		30	3.08	4.34	6.09	8.50	11.70	15.58	13.73
		35	3.04	4.29	6.04	8.44	11.65	15.65	14.14
		40	2.96	4.18	5.88	8.23	11.40	15.41	19.60
	2041 BT4 2041 BT4S4 2041 BT4S5	25	3.60	5.08	7.13	9.94	13.62	17.94	15.28
		30	3.59	5.06	7.11	9.92	13.65	18.18	16.02
		35	3.55	5.01	7.04	9.84	13.59	18.25	16.50
		40	3.46	4.87	6.86	9.60	13.30	17.98	22.86
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	7	9.8	13.8	19.2	26.3	34.6	29.5
		30	7	9.8	13.7	19.1	26.3	35.1	30.9
		35	7	9.7	13.6	19.0	26.2	35.2	31.8
		40	7	9.4	13.2	18.5	25.7	34.7	44.1
	1342 BT06 1342 BT06S6 1342 BT06S7	25	13	18.1	25.5	35.5	48.6	64.1	54.6
		30	13	18.1	25.4	35.4	48.8	64.9	57.2
		35	13	17.9	25.1	35.2	48.5	65.2	58.9
		40	12	17.4	24.5	34.3	47.5	64.2	81.7
	1342 BT08S9 1342 BT08S11	25	28	39.9	56.0	78	107	141	120
		30	28	39.7	55.8	78	107	143	126
		35	28	39.3	55.3	77	107	143	130
		40	27	38.3	53.9	75	105	141	180
	1342 BT12S13 1342 BT12S17	25	64	91	127	177	243	320	273
		30	64	90	127	177	244	325	286
		35	63	89	126	176	243	326	295
		40	62	87	122	171	238	321	408
	1342 BT16S17 1342 BT16S21	25	103	145	204	284	389	513	436
		30	103	145	203	283	390	519	458
		35	101	143	201	281	388	522	471
		40	99	139	196	274	380	514	653

All capacities are calculated with a temperature before the valve corresponding to the temperature of condensation a superheat of +25°C and an evaporating temperature of -10°C

For capacities in other temperatures, use the following correction factor:

EVAPORATING TEMPERATURE	10	0	-10	-20	-30	-40
CORRECTION FACTOR	1.10	1.05	1	0.95	0.89	0.83

Kg/s

CATALOG Nr		T.Cond. °C	PRESSURE DIFFERENTIAL IN KPa. 50	100	200	300	400	500	600
	2041 BT2 2041 BT2S2 2041 BT2S3	25	0.0062	0.0086	0.0115	0.0134	0.0083	0.0083	0.0083
		30	0.0066	0.0092	0.0125	0.0146	0.0160	0.0096	0.0096
		35	0.0071	0.0098	0.0134	0.0158	0.0174	0.0149	0.0149
		40	0.0075	0.0105	0.0144	0.0170	0.0189	0.0203	0.0203
	2041 BT3 2041 BT3S3	25	0.047	0.060	0.080	0.091	0.098	0.098	0.098
		30	0.047	0.064	0.086	0.100	0.062	0.062	0.062
		35	0.050	0.069	0.093	0.109	0.120	0.072	0.072
		40	0.053	0.074	0.101	0.118	0.131	0.112	0.112
	2041 BT4 2041 BT4S4 2041 BT4S5	25	0.054	0.075	0.101	0.117	0.073	0.073	0.073
		30	0.058	0.080	0.109	0.127	0.140	0.084	0.084
		35	0.062	0.086	0.117	0.138	0.153	0.130	0.130
		40	0.066	0.092	0.126	0.149	0.165	0.178	0.178
	2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	0.105	0.145	0.195	0.226	0.140	0.140	0.140
		30	0.112	0.155	0.210	0.246	0.269	0.162	0.162
		35	0.120	0.166	0.226	0.266	0.294	0.251	0.251
		40	0.127	0.177	0.243	0.267	0.319	0.343	0.343
	1342 BT06 1342 BT06S6 1342 BT06S7	25	0.194	0.268	0.360	0.418	0.260	0.260	0.260
		30	0.207	0.287	0.389	0.455	0.499	0.300	0.300
		35	0.221	0.308	0.419	0.493	0.545	0.465	0.465
		40	0.236	0.328	0.449	0.531	0.591	0.635	0.635
	1342 BT08S9 1342 BT08S11	25	0.427	0.589	0.793	0.919	0.572	0.572	0.572
		30	0.456	0.632	0.857	1.001	1.098	0.660	0.660
		35	0.487	0.677	0.922	1.084	1.198	1.023	1.023
		40	0.519	0.722	0.988	1.169	1.300	1.396	1.396
	1342 BT12S13 1342 BT12S17	25	0.970	1.339	1.802	2.088	1.300	1.300	1.300
		30	1.037	1.437	1.947	2.275	2.495	1.500	1.500
		35	1.107	1.536	2.095	2.464	2.723	2.325	2.325
		40	1.179	1.641	2.246	2.656	2.954	3.173	3.173
	1342 BT16S17 1342 BT16S21	25	1.551	2.143	2.883	3.341	2.080	2.080	2.080
		30	1.660	2.300	3.115	3.640	3.992	2.400	2.400
		35	1.772	2.461	3.351	3.942	4.358	3.720	3.720
		40	1.886	2.626	3.593	4.249	4.726	5.076	5.076

All capacities are calculated with a temperature before the valve of +90°C

For capacities in other temperatures, use the following correction factor:

TEMPERATURE BEFORE THE VALVE IN °C	60	70	80	90
CORRECTION FACTOR	1.04	1.03	1.02	1

Capacity tables for hot gas

Kw

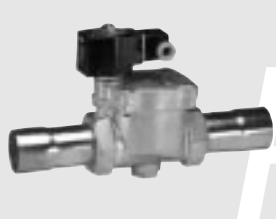
CATALOG Nr	T.Cond. ºC	PRESSURE DIFFERENTIAL IN KPa. 10	20	40	80	160	320	640
 2041 BT2 2041 BT2S2 2041 BT2S3	25	0.414	0.584	0.820	1.143	1.568	2.071	1.717
	30	0.438	0.618	0.868	1.213	1.670	2.229	1.908
	35	0.445	0.628	0.883	1.235	1.707	2.297	2.017
	40	0.411	0.580	0.816	1.143	1.584	2.145	2.739
2041 BT3 2041 BT3S3	25	3.11	4.38	6.15	8.57	11.76	15.53	12.88
	30	3.29	4.63	6.51	9.10	12.53	16.72	14.31
	35	3.34	4.71	6.62	9.27	12.81	17.23	15.13
	40	3.08	4.35	6.12	8.57	11.88	16.08	20.54
2041 BT4 2041 BT4S4 2041 BT4S5	25	3.62	5.11	7.17	10.00	13.72	18.12	15.02
	30	3.83	5.41	7.60	10.61	14.62	19.50	16.69
	35	3.90	5.50	7.73	10.81	14.94	20.10	17.65
	40	3.60	5.07	7.14	10.00	13.86	18.77	23.96
2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	7.0	9.9	13.8	19.3	26.5	35.0	29.0
	30	7.4	10.4	14.7	20.5	28.2	37.6	32.2
	35	7.5	10.6	14.9	20.8	28.8	38.8	34.0
	40	6.9	9.8	13.8	19.3	26.7	36.2	46.2
 1342 BT06 1342 BT06S6 1342 BT06S7	25	12.9	18.2	25.6	35.7	49.0	64.7	53.6
	30	13.7	19.3	27.1	37.9	52.2	69.7	59.6
	35	13.9	19.6	27.6	38.6	53.4	71.8	63.0
	40	12.8	18.1	25.5	35.7	49.5	67.0	85.6
1342 BT08S9 1342 BT08S11	25	28.5	40.1	56.4	79	108	142	118
	30	30.1	42.5	59.7	83	115	153	131
	35	30.6	43.2	60.7	85	117	158	139
	40	28.3	39.9	56.1	79	109	147	188
1342 BT12S13 1342 BT12S17	25	65	91	128	179	245	324	268
	30	68	97	136	189	261	348	298
	35	70	98	138	193	267	359	315
	40	64	91	127	179	247	335	428
1342 BT16S17 1342 BT16S21	25	104	146	205	286	392	518	429
	30	110	154	217	303	418	557	477
	35	111	157	221	309	427	574	504
	40	103	145	204	286	396	536	685

All capacities are calculated with a temperature before the valve corresponding to the temperature of condensation a superheat of +25°C and an evaporating temperature of -10°C

For capacities in other temperatures, use the following correction factor:

EVAPORATING TEMPERATURE	10	0	-10	-20	-30
CORRECTION FACTOR	1.10	1.05	1	0.95	0.90

Kg/s

CATALOG Nr	T.Cond. ºC	PRESSURE DIFFERENTIAL IN KPa. 50	100	200	300	400	500	600
 2041 BT2 2041 BT2S2 2041 BT2S3	25	0.0063	0.0087	0.0117	0.0136	0.0083	0.0083	0.0083
	30	0.0067	0.0094	0.0127	0.0148	0.0163	0.0163	0.0163
	35	0.0072	0.0100	0.0136	0.0161	0.0178	0.0178	0.0178
	40	0.0077	0.0107	0.0146	0.0173	0.0193	0.0208	0.0208
2041 BT3 2041 BT3S3	25	0.047	0.065	0.088	0.102	0.062	0.062	0.062
	30	0.051	0.070	0.095	0.111	0.122	0.072	0.072
	35	0.054	0.075	0.102	0.121	0.133	0.112	0.112
	40	0.058	0.080	0.110	0.130	0.145	0.156	0.156
2041 BT4 2041 BT4S4 2041 BT4S5	25	0.055	0.076	0.103	0.119	0.073	0.073	0.073
	30	0.059	0.082	0.111	0.130	0.143	0.143	0.143
	35	0.063	0.088	0.119	0.141	0.156	0.156	0.156
	40	0.067	0.099	0.128	0.152	0.169	0.182	0.182
2041 BT5 2041 BT5S5 2041 BT5S6 2041 BT5S7	25	0.106	0.147	0.198	0.230	0.140	0.140	0.140
	30	0.114	0.158	0.214	0.251	0.275	0.275	0.275
	35	0.121	0.169	0.230	0.271	0.300	0.300	0.300
	40	0.129	0.180	0.247	0.292	0.326	0.350	0.350
 1342 BT06 1342 BT06S6 1342 BT06S7	25	0.197	0.272	0.367	0.426	0.260	0.260	0.260
	30	0.211	0.292	0.396	0.464	0.510	0.510	0.510
	35	0.225	0.313	0.426	0.502	0.556	0.556	0.556
	40	0.240	0.334	0.457	0.541	0.603	0.648	0.648
1342 BT08S9 1342 BT08S11	25	0.433	0.599	0.807	0.938	0.572	0.572	0.572
	30	0.464	0.643	0.872	1.021	1.122	1.122	1.122
	35	0.495	0.688	0.938	1.105	1.224	1.224	1.224
	40	0.527	0.734	1.006	1.191	1.326	1.427	1.427
1342 BT12S13 1342 BT12S17	25	0.985	1.362	1.835	2.131	1.300	1.300	1.300
	30	1.054	1.461	1.982	2.320	2.550	2.550	2.550
	35	1.125	1.564	2.132	2.512	2.781	2.781	2.781
	40	1.198	1.668	2.286	2.706	3.014	3.242	3.242
1342 BT16S17 1342 BT16S21	25	1.576	2.179	2.935	3.409	2.080	2.080	2.080
	30	1.686	2.338	3.171	3.712	4.080	4.080	4.080
	35	1.800	2.502	3.412	4.018	4.450	4.450	4.450
	40	1.917	2.670	3.657	4.330	4.823	5.188	5.188

All capacities are calculated with a temperature before the valve of +90°C

For capacities in other temperatures, use the following correction factor:

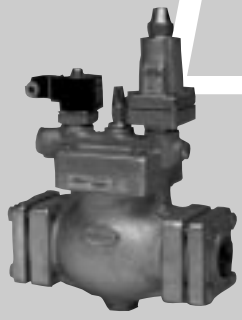
TEMPERATURE BEFORE THE VALVE IN ºC	60	70	80	90
CORRECTION FACTOR	1.04	1.03	1.02	1

Liquid line capacity
Tables for ammonia

Kw

CATALOG Nr	Connect. ø	Pressure Δ KPa.	EVAPORATING TEMPERATURE IN °C 0	-10	-20	-30	-40
 1343 AT1	1/2"	14	14.8	14.6	14.5	14.3	14.1
		21	18.1	17.9	17.7	17.5	17.2
		35	23.4	23.1	22.9	22.6	22.3
		70	33.0	32.7	32.4	31.9	31.5
1343 AT3	1/2"	14	148	146	145	143	141
		21	181	179	177	175	172
		35	234	231	229	226	223
		70	330	327	324	319	315
1343 AT34	3/4"	14	194	192	190	187	185
		21	238	235	233	230	226
		35	307	304	300	296	292
		70	434	430	425	419	413
1343 AT4	3/4"	14	416	412	407	402	396
		21	509	504	498	492	485
		35	657	651	643	635	626
		70	929	921	910	898	886
1343 AT5	1"	14	554	549	543	536	528
		21	679	672	665	656	647
		35	876	868	858	847	835
		70	1239	1227	1213	1198	1181
1343 AT6 1343 AT7	1" 1.1/4"	14	739	732	724	714	704
		21	905	896	886	875	862
		35	1168	1157	1144	1129	1113
		70	1652	1637	1618	1597	1575
 1344 AT06	3/4"	14	554	549	543	536	528
		21	679	672	665	656	647
		35	876	868	858	847	835
		70	1239	1227	1213	1198	1181
1344 AT08	1"	14	924	915	904	893	880
		21	1131	1120	1108	1093	1078
		35	1461	1447	1430	1412	1392
		70	2066	2046	2022	1996	1968
1344 AT10 1344 AT12	1.1/4" 1.1/2"	14	1386	1372	1357	1339	1320
		21	1697	1681	1661	1640	1617
		35	2191	2170	2145	2117	2088
		70	3098	3069	3033	2994	2952
1344 AT16	2"	14	2125	2104	2080	2053	2024
		21	2602	2577	2548	2515	2479
		35	3359	3327	3289	3247	3201
		70	4751	4705	4651	4592	4527

Kw

CATALOG Nr	Connect. ø	Pressure Δ KPa.	EVAPORATING TEMPERATURE IN °C 0	-10	-20	-30	-40
 2054-20 2054 M20	3/4"	14	610	604	597	589	581
		21	747	740	731	722	711
		35	964	955	944	932	919
		70	1363	1350	1335	1318	1299
2054-25 2054 M25	1"	14	887	878	868	857	845
		21	1086	1076	1063	1050	1035
		35	1402	1389	1373	1355	1336
		70	1983	1964	1941	1916	1889
2054-32 2054 M32	1,1/4"	14	1552	1537	1519	1500	1479
		21	1901	1882	1861	1837	1811
		35	2454	2430	2402	2372	2338
		70	3470	3437	3397	3354	3307
2054-40 2054 M40	1,1/2"	14	2439	2415	2388	2357	2324
		21	2987	2958	2924	2887	2846
		35	3856	3819	3775	3727	3674
		70	5453	5401	5339	5270	5196
2054-50 2054 M50	2"	14	3048	3019	2984	2946	2905
		21	3733	3698	3655	3608	3557
		35	4820	4774	4719	4658	4593
		70	6816	6751	6673	6588	6495
2054-60 2054 M60	2,1/2"	14	5081	5032	4974	4910	4841
		21	6222	6163	6092	6014	5929
		35	8033	7956	7865	7764	7654
		70	11360	11251	11122	10980	10825
2054-70 2054 M70	3"	14	8036	7959	7868	7767	7658
		21	9843	9748	9636	9513	9379
		35	12707	12585	12441	12281	12108
		70	17970	17798	17594	17368	17123
2054-100	4"	14	14133	13997	13837	13660	13467
		21	17309	17143	16947	16730	16494
		35	22346	22132	21878	21598	21293
		70	31602	31299	30941	30544	30113

All capacities are calculated with a condensing temperature of +25ºC.

For capacities in other temperatures,use the following correction factor:

CONDENSING TEMPERATURE	15	20	25	30	35	40
CORRECTION FACTOR	1,05	1,03	1	0,97	0,94	0,92

Capacity tables for Ammonia in steam.

Kw

CATALOG Nr		Connect. ø	Pressure Δ KPa.	EVAPORATING TEMPERATURE IN ºC 0	-10	-20	-30	-40
	1343 AT1	1/2"	14	1.1	0.9	0.7	0.6	0.4
			35	1.7	1.4	1.1	0.8	
			70	2.3	1.8	1.4		
			140	3.0	2.1			
	1343 AT3	1/2"	14	11.1	9.1	7.3	5.6	4.2
			35	17.2	13.9	10.8	8.0	
			70	23.2	18.2	13.5		
			140	29.6	21.5			
	1343 AT34	3/4"	14	14.6	12.0	9.6	7.4	5.5
			35	22.6	18.2	14.2	10.5	
			70	30.5	23.9	17.7		
			140	38.8	28.2			
	1343 AT4	3/4"	14	31.4	25.6	20.5	15.9	11.8
			35	48.3	39.0	30.4	22.5	
			70	65.3	51.3	38.0		
			140	83.1	60.3			
	1343 AT5	1"	14	41.8	34.2	27.3	21.2	15.7
			35	64.4	52.0	40.6	30.1	
			70	87.1	68.4	50.7		
			140	110.8	80.4			
	1343 AT6 1343 AT7	1" 1.1/4"	14	55.7	45.6	36.4	28.2	21.0
			35	85.9	69.3	54.1	40.1	
			70	116.1	91.2	67.6		
			140	147.8	107.3			
	1344 AT06	3/4"	14	41.8	34.2	27.3	21.2	15.7
			35	64.4	52.0	40.6	30.1	
			70	87.1	68.4	50.7		
			140	110.8	80.4			
	1344 AT08	1"	14	69.7	57.0	45.5	35.3	26.2
			35	107.4	86.6	67.6	50.1	
			70	145.2	114.0	84.5		
			140	184.7	134.1			
	1344 AT10 1344 AT12	1.1/4" 1.1/2"	14	104.5	85.4	68.3	53.0	39.3
			35	161.1	130.0	101.5	75.2	
			70	217.7	171.1	126.7		
			140	277.1	201.1			
	1344 AT16	2"	14	160.3	131.0	104.7	81.2	60.3
			35	247.1	199.3	155.6	115.2	
			70	333.9	262.3	194.3		
			140	424.9	308.4			

Kw

CATALOG Nr		Connect. ø	Pressure Δ KPa.	EVAPORATING TEMPERATURE IN ºC 0	-10	-20	-30	-40
	2054-20 2054 M20	3/4"	14	46.0	37.6	30.0	23.3	17.3
			35	70.9	57.2	44.6	33.1	
			70	95.8	75.3	55.8		
			140	121.9	88.5			
	2054-25 2054 M25	1"	14	67	55	44	34	25
			35	103	83	65	48	
			70	139	109	81		
			140	177	129			
	2054-32 2054 M32	1,1/4"	14	117	96	76	59	44
			35	180	146	114	84	
			70	244	192	142		
			140	310	225			
	2054-40 2054 M40	1,1/2"	14	184	150	120	93	69
			35	284	229	179	132	
			70	383	301	223		
			140	488	354			
	2054-50 2054 M50	2"	14	230	188	150	117	87
			35	354	286	223	165	
			70	479	376	279		
			140	610	442			
	2054-60 2054 M60	2,1/2"	14	383	313	250	194	144
			35	591	477	372	276	
			70	798	627	465		
			140	1016	737			
	2054-70 2054 M70	3"	14	606	496	396	307	228
			35	935	754	588	436	
			70	1263	992	735		
			140	1607	1166			
	2054-100	4"	14	1066	871	696	540	401
			35	1643	1326	1035	767	
			70	2221	1745	1292		
			140	2826	2051			

All capacities are calculated with a condensing temperature of +25ºC.

For capacities in other temperatures, use the following correction factor:

CONDENSING TEMPERATURE	15	20	25	30	35	40
CORRECTION FACTOR	1,04	1,02	1	0,98	0,96	0,93

Capacity tables for Ammonia in steam.

Kw

CATALOG Nr	Connect. ø	Pressure ΔKPa.	PRESSURE DROP THROUGH THE VALVE IN KPa 50	100	200	400	600	800
 1343 AT1	1/2"	-40	3.0	4.2	5.7	7.6	8.5	8.6
		-20	3.1	4.3	5.9	7.8	8.9	8.9
		0	3.2	4.4	6.1	8.1	9.1	9.2
1343 AT3	1/2"	-40	30.1	41.7	57.2	75.6	85.4	85.9
		-20	31.2	43.2	59.3	78.4	88.5	89.1
		0	32.1	44.4	60.9	80.6	91.0	91.5
1343 AT34	3/4"	-40	39.5	54.7	75.0	99.2	112.1	112.7
		-20	40.9	56.7	77.8	102.9	116.2	116.9
		0	42.1	58.3	80.0	105.8	119.4	120.1
1343 AT4	3/4"	-40	84.5	117.2	160.7	212.7	240.1	241.5
		-20	87.7	121.6	166.7	220.6	249.0	250.5
		0	90.1	124.9	171.4	226.6	256.0	257.4
1343 AT5	1"	-40	112.7	156.3	214.3	283.6	320.2	322.0
		-20	116.9	162.1	222.2	294.1	332.0	334.0
		0	120.2	166.6	228.5	302.2	341.3	343.2
1343 AT6 1343 AT7	1" 1.1/4"	-40	150.3	208.3	285.8	378.1	426.9	429.3
		-20	155.9	216.1	296.3	392.2	442.7	445.3
		0	160.3	222.1	304.6	402.9	455.0	457.6
 1344 AT06	3/4"	-40	112.7	156.3	214.3	283.6	320.2	322.0
		-20	116.9	162.1	222.2	294.1	332.0	334.0
		0	120.2	166.6	228.5	302.2	341.3	343.2
1344 AT08	1"	-40	187.9	260.4	357.2	472.6	533.6	536.6
		-20	194.9	270.1	370.4	490.2	553.4	556.6
		0	200.3	277.6	380.8	503.6	568.8	572.0
1344 AT10 1344 AT12	1.1/4" 1.1/2"	-40	281.8	390.6	535.8	708.9	800.4	804.9
		-20	292.3	405.2	555.6	735.3	830.1	834.9
		0	300.5	416.4	571.2	755.4	853.2	858.0
1344 AT16	2"	-40	432.1	599.0	821.6	1087.0	1227.3	1234.2
		-20	448.2	621.3	851.9	1127.5	1272.8	1280.2
		0	460.7	638.5	875.8	1158.3	1308.2	1315.6

Kw

CATALOG Nr	Connect. ø	Pressure ΔKPa.	PRESSURE DROP THROUGH THE VALVE IN KPa 50	100	200	400	600	800
 2054-20 2054 M20	3/4"	-40	124	172	236	312	352	354
		-20	129	178	244	324	365	367
		0	132	183	251	332	375	378
2054-25 2054 M25	1"	-40	180	250	343	454	512	515
		-20	187	259	356	471	531	534
		0	192	266	366	483	546	549
2054-32 2054 M32	1,1/4"	-20	316	438	600	794	896	901
		-20	327	454	622	824	930	935
		0	337	466	640	846	956	961
2054-40 2054 M40	1,1/2"	-40	496	688	943	1248	1409	1417
		-20	514	713	978	1294	1461	1469
		0	529	733	1005	1330	1502	1510
2054-50 2054 M50	2"	-40	620	859	1179	1560	1761	1771
		-20	643	891	1222	1618	1826	1837
		0	661	916	1257	1662	1877	1888
2054-60 2054 M60	2,1/2"	-40	1033	1432	1965	2599	2935	2951
		-20	1072	1486	2037	2696	3044	3061
		0	1102	1527	2094	2770	3128	3146
2054-70 2054 M70	3"	-40	1635	2266	3108	4112	4642	4668
		-20	1695	2350	3222	4265	4815	4842
		0	1743	2415	3313	4381	4949	4976
2054-100	4"	-40	2875	3984	5465	7231	8164	8210
		-20	2981	4133	5667	7500	8467	8516
		0	3065	4247	5826	7705	8703	8752

The Correction Factors modify the capacity of the valve.
When the power is known and the unknown is the valve or its pressure differential (Δp), the inverse of the Correction Factor must be used over the power as shown in the following examples.

EXAMPLE 1

Facts:
Refrigerant: Liquid 134a
Power of System: 50Kw
Temperature before the valve: 35°C
Evaporating Temperature: -40°C
ΔP: 50KPa

Unknown:
Size of the solenoid valve

Solution:
Correction for Condensation Temperature difference: 50 ÷ 0.89 = 56.18
Correction for Evaporation Temperature difference: 56.18 ÷ 0.88 = 63.84
In the Liquid Table: 2041 BT4: 46 Kw.
2041 BT5: 92 Kw.

Correct selection: 2041BT5

E XAMPLE 2

Facts:
Refrigerant: Liquid 134a
Power of System: 50 Kw
Temperature before the valve: 35°C
Evaporating Temperature: -40°C
ΔP: 50 KPa

Unknown:
Capacity of solenoid valve 2041 BT5

Solution:
In the Liquid Table 2041 BT5 for Δp: 50
R134a = 92
Correction for Evaporation Temperature:
92 x 0.88 = 80.96
Correction for Condensation Temperature:
80.96 x 0.89 = 72.05

Capacity: 72.05 Kw

E XAMPLE 3

Facts:
Refrigerant: Liquid 134a
Power of System: 50 Kw
Temperature before the valve: 35°C
Evaporating Temperature: -40°C
Valve model: 2041 BT5

Unknown:
ΔP

Solution:
Correction for Condensation Temperature difference: 50 ÷ 0.89 = 56.18
Correction for Evaporation Temperature difference: 56.18 ÷ 0.88 = 63.84
In the Liquid Table: 2041 BT5, the closest value for 64 Kw: Δp 20 = 56 Kw and Δp 30 Kpa = 71 Kw

The **Δ**p will be between 20 and 30 KPa.

UNIT CONVERSION TABLE

DENSITY

	Kg./m³	Lb./Ft³
Kg./m³	1	0.0624
Lb./Ft³	16.018	1

TEMPERATURE

	°F	°C	°K	°R
°F	1	(°F - 32) / 1.8	(°F + 459.69) / 1.8	°F + 459.69
°C	°C x 1.8 +32	1	°C + 273.16	°C x 1.8 + 491.69
°K	°K x 1.8 - 459.69	°K - 273.16	1	°K x 1.8
°R	°R - 459.69	(°R - 491.69) / 1.8	°R / 1.8	1

REFRIGERATION LOAD

	Kw.	Kcal./H	BTU/H	Ton.Refrig.
Kw	1	860	3412	0.284
Kcal./H	0.00116	1	3.968	0.0003306
BTU/H	0.000293	0.252	1	0.0000833
Ton.Refrig	3.5168	3024	12000	1

VOLUME

	Litres	M³	Gal.USA	Foot³
Litros	1	0.001	0.264	0.0353
M.Cub.	1000	1	264	35.31
Gal.USA	3.785	0.00378	1	7.481
Pie Cub.	28.32	0.02832	0.1337	1

PRESSURE

	Kg./cm²	KPa.	Bar.	Psi.	mm.c.hg.	Inch.c.hg.
Kg./cm²	1	98.1	0.981	14.22	736	28.97
KPa.	0.0102	1	0.01	0.145	0.75	0.295
Bar.	1.02	100	1	14.5	750	29.53
Psi.	0.0703	6.897	0.069	1	51.76	2.036
mm.c.hg.	0.00136	0.133	0.00133	0.0193	1	25.4
Inch.c.hg.	0.0345	3.39	0.0339	0.491	0.0394	1

ENTHALPY

	BTU/LB	Kcal./Kg.	KJoule/Kg.
BTU/LB	1	0.5556	2.3278
Kcal./Kg.	1.8	1	4.19
KJoule/Kg.	0.4296	0.2387	1

Note: Units in column: Base or Reference unit
Unit in Line: Resulting Units.
To obtain an equivalent resultant value multiply the coefficient by the known value in its base units, for temperature apply the corresponding formula