

Refrigerant Transfer Pumps

RTP

RTP - Devices to pressurize and transfer refrigerant to delivery lines

RTP Pumps are designed specifically for the transfer and pressurization of refrigerants. They are provided with a complete set of accessories, which include:

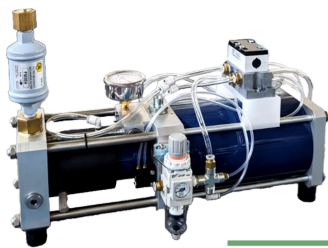
- Pressure regulator fluid in the supply line
- Gauge pressure of the fluid in the supply line
- Safety valve by-pass to protect the RTP from possible over-pressure in the discharge line
- Unit filter / dryer for compressed air

Suggested accessories :

- High capacity filter on the inlet, to protect the pump from solid impurities that may be present in the refrigerant
- Quick couplings with flat faces, to enable rapid

connections and disconnections from the refrigerant lines, in case of pump maintenance operations

- Suction hose to connect the filter to the storage tank and to the pump
- Hose in the supply to connect the pump directly to the refrigerant charging unit
- Safety valve for emission of refrigerant to the outside or inside the tank in case of emergency
- Hydro-pneumatic accumulator to maintain stable discharge pressure in case of unexpected refrigerant flow variation in the distribution system



RTP 6315

Maximum rate 6,0 l/min
 Dimension 540x200x340 mm
 Single compression action
 One Hydraulic cylinder



RTP 6315T

Maximum rate 10,0 l/min
 Dimension 700x200x340 mm
 Double compression action
 Two Hydraulic cylinders

Technical characteristic	RTP 6315 (-HC)	
Maximum rate	6,0 l/min	
dimensions	540x200x340 mm	
Weight	15kg	
Number of Hydraulic cylinders	Single compression action	
Refrigerant compatibility	HFC, HCFC, HFO, HC	
Geometrical multiplier ratio	4,27 ** Equal to the ratio: refrigerant delivery pressure–refrigerant supply pressure) / compressed air pressure features subject to change without notice; please contact FT Sales Service for more information	
Integrated safety valve setting	4000 kPa	
Delivery line connection	3/8" GAS-M	
Suction line connection	3/4" GAS-M	
Compressed air supply	Dried, filtered, not lubricated	
Compressed air Pressure	2 ÷ 6 bar	
Compressed air Pressure pipe typology	RILSAN Øe 8 mm	

Technical characteristic	RTP 6315T (-HC)	RTP 6325T (-HC)
Maximum rate	10,0 l/min	13,0 l/min
dimensions	700x200x340 mm	1100x200x340 mm
Weight	17kg	40kg
Number of Hydraulic cylinders	Double compression action	Double compression action
Refrigerant compatibility	HFC, HCFC, HFO, HC	

Optional features and devices	
RTP Connection KIT	
Automatic RTP Stopping System (RTP SS) (with acoustic alarm, red -green light, HFC or HC)	
Automatic Tank Change system (TCS)	
Customization on special platform composed by RTP SS + TCS + Hydro-pneumatic accumulator	

Company Profile

Vacuum and Charging units

HC Refrigerants handling systems

Special Units

Vacuum and Charging Injectors

Refrigerant transfer pump

Pressure test units leak detectors

Preliminary evacuation

Electrical and functional test

Ultrasonic tube sealers

IPCS & IPCS PLUS

Refrigerant Transfer Pumps

Hydro-pneumatic Accumulators

The **hydro-pneumatic accumulator** is a device designed specifically for the storage of liquids under pressure. As liquids are, for all practical purposes, incompressible, the storage is achieved by making use of the compressibility of gases.

The accumulators can be conveniently used in different applications, such as:

- Keep the liquid under pressure, to temporarily maintain high levels of flow rate.
- Stabilization of pressurized lines, to limit the fluctuations of temperature or flow rate.
- Energy storage in the form of pressurized fluid or hydraulic spring.
- Absorb hammering or pulsation of the fluid.

The accumulators are available for many standard Industrial Refrigerants and fluids such as:

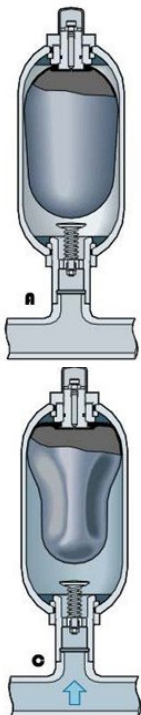
- Refrigerants HFC (R134a, R404A, R407C, R410A,

R507, others)

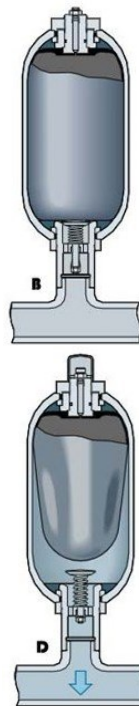
- Refrigerants HCFC
- Refrigerants CFC
- Refrigerants HC and HFO (R600a, R290, R32, R1234ze R1234yf)
- Other “natural gases” as NH₃ (R717) e CO₂ (R744), industrial oils or general fluids
- CE-PED, ATEX and ML available on request

* FT srl provides accumulators with preloaded pressurized nitrogen as standard.

* When choosing an accumulator please contact the technical department of FT srl to communicate the nature of the fluid used.



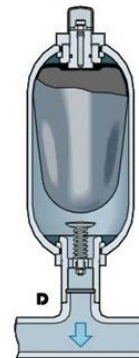
A- A flexible separator bladder is fitted into a pressure vessel (accumulator shell).



B- An inert gas (nitrogen) is introduced into the bladder through a special valve with pressure P_0 . The bladder expands, filling the entire volume V_0 of the accumulator shell.



C- When circuit pressure P_1 is higher than the gas pre-charge pressure P_0 , the liquid valve opens, and the bladder is compressed reducing the gas volume to V_1 .



D- When the liquid pressure rises to P_2 , the volume of gas reduces to V_2 with an attendant rise in pressure, thus balancing the liquid pressure. This means that the accumulator has been pressurised $\Delta V = V_1 - V_2$ and a potential energy has been created to be utilised as desired.

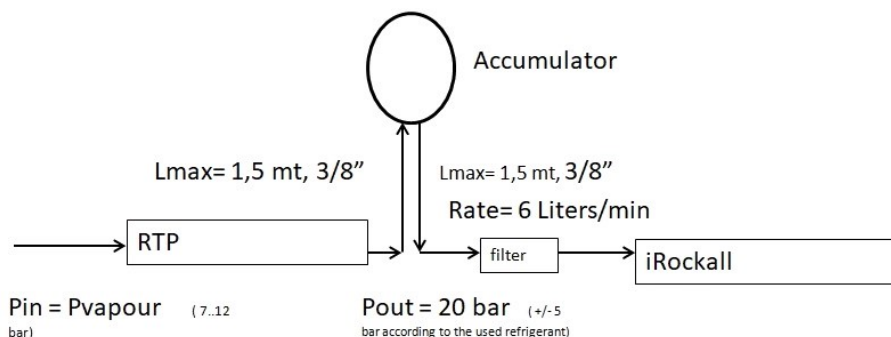
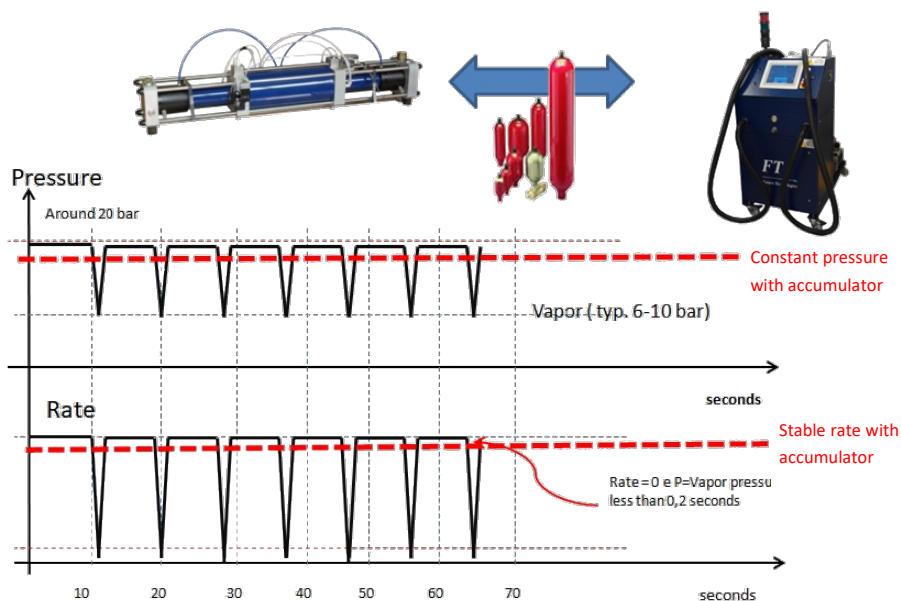
Typical Charge Amount on Refrigerant Circuit	Available and suggested capacity	Dimensions (H x D mm) weight (kg)
from 30 g to 100 g	0,35 Litres	190 x 70mm 2,5 kg
from 100 g to 300 g	0,70 Litres	220 x 92mm 3,2 kg
from 300 g to 1 kg	1,5 Litres	270 x 115mm 6,2 kg
from 1 kg to 3 kg	3,0 Litres	400 x 115mm 9,8 kg
from 3 kg to 10 kg	5,0 Litres	365 x 168mm 15 kg
from 10 kg to 25 kg	15,0 Litres	750 x 168mm 25 kg
over 25 kg	25 Litres	750 x 220mm 36kg

* Contact the technical FT srl for proper sizing accumulators, size and accessory piping

Example of connection and functionality

The pictures show the rate and relevant waveform smoothing in presence of the accumulator (red line).

The FT charging units operate at maximum accuracy when the accumulator is working correctly.



Accessories suggested with Accumulators

Support brackets

Holding collars

Kit pipe / fitting for interfacing with systems RTP

Nitrogen accumulator control kit

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