



## **Universal Accumulator Pre-charging Nitrogen Kit**



AACK-3KHD-USMP

# Universal Accumulator Pre-charging Nitrogen Kit

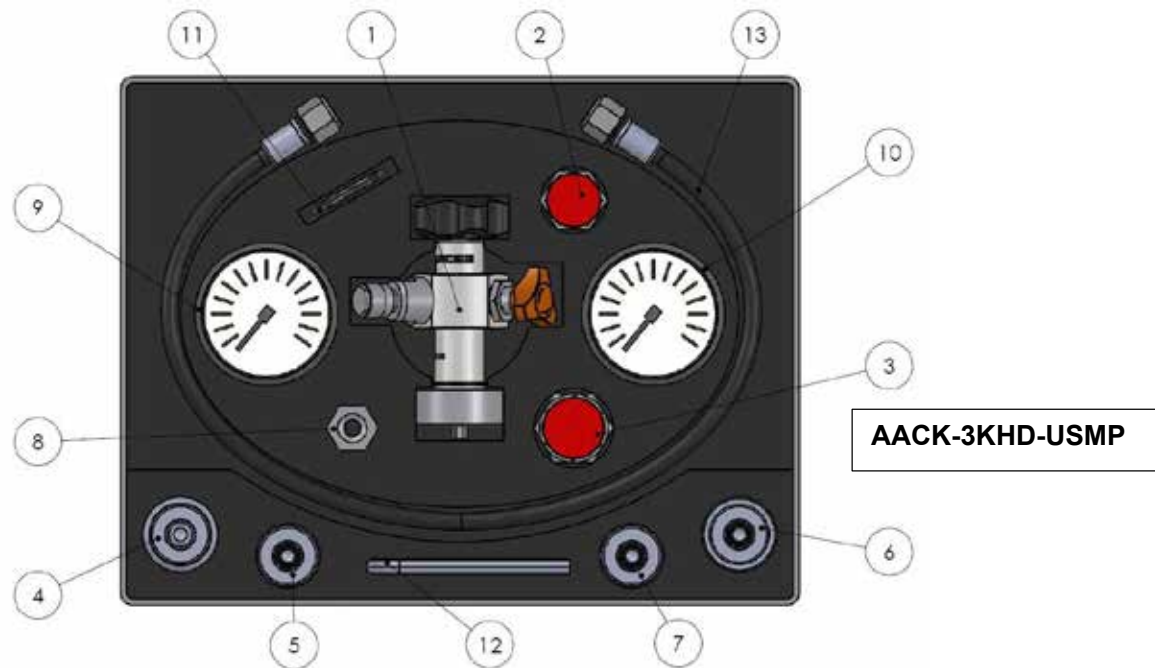
CODE	Note	Nitrogen bottle adaptor included
AACK-3KHD-USMP		CGA-580 Gas Bottle Adpapter, 3K Stem & Nut



The universal nitrogen tester and pressurizer kit is an indispensable instrument for the verification, pressurization, and nitrogen bleeding for most of the hydraulic accumulators available on the market.

To use this unit, screw it on the inflation valve of the accumulator and connect a high-pressure hose to nitrogen bottle.

**Kit Weight:** 8.6 lbs - Model - AACK-3KHD-USMP



**Standard kit Components:**

Description	Note	N°item
Plastic case		<b>Grey</b>
Charging tool shell – Pmax 400bar/5800psi	M28 x 1,5	<b>1</b>
Flexi tube about 2m – Pmax 400bar/5800psi	¼ - ¼	<b>13</b>
Bottle adaptor (please check manufacturer instruction)	P max 200bar/2900 psi	<b>2+3</b>
Pressure gauge with glycerin – test coupling connection	D63mm (0-350)psi	<b>9</b>
Pressure gauge with glycerin – test coupling connection	D63mm (0-3500) psi	<b>10</b>
Gasket set of precharging kit		<b>11</b>
Nitrogen accumulator valve adaptor	M28x1,5 – 5/8" 18 UNF	<b>7</b>
Nitrogen accumulator valve adaptor	5/8" 18UNF – 5/16 (8V1) Schrader valve	<b>8</b>
Nitrogen accumulator valve adaptor	M28x1,5 – M16x2	<b>4</b>
Nitrogen accumulator valve adaptor	M28x1,5 – 7/8" 18 UNF	<b>5</b>
Nitrogen accumulator valve adaptor	M28x1,5 – ¾"	<b>6</b>
Hexagon socket screw	Key 6mm	<b>12</b>

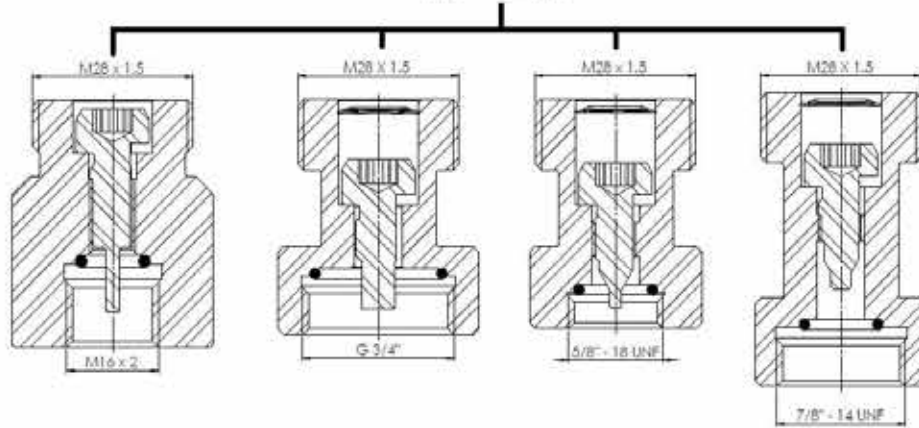
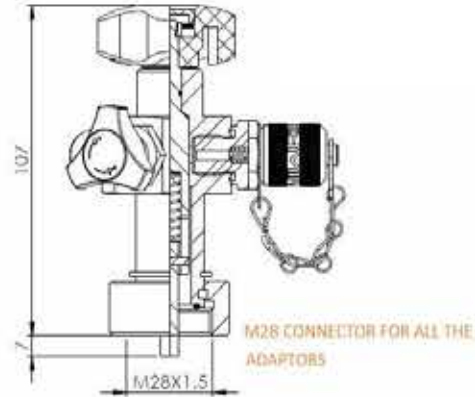
**AACK-3KHD-USMP**  
**Components included as picture**

BLEED VALVE FOR  
 PRESSURE REGULATION



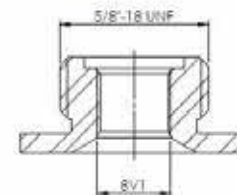
INPUT VALVE

TEST POINT FOR  
 MANOMETER  
 CONNECTION



Use o-ring provided for  
 schrader valve adapter

Schrader Valve Adapter



### Applications:

- Accumulator inflation
- Accumulator inflation after the replacement of the bladder
- Accumulator pre-charge periodic check
- Accumulator pre-charge check during the installation phase
- Accumulator pre-charge variation

### Safety Instructions:

Before any use of the pre-charging kit tool, carefully read the direction and safety instruction in this guide.

In any case, observe the pressure limits indicated on the various appliances. If necessary, refer to the applicable operating instruction.

Before any nitrogen pressurization measurement, the accumulator of the hydraulic circuit under pressure has to be isolated and discharge on the hydraulic side. If required, immobilize it and define the safety zone.

Only use the nitrogen purity  $\geq 99,8\%$  N<sub>2</sub> to pressure the accumulators.

The installation of a pressure reducer between the nitrogen bottle and the tester and pressurizer is mandatory.

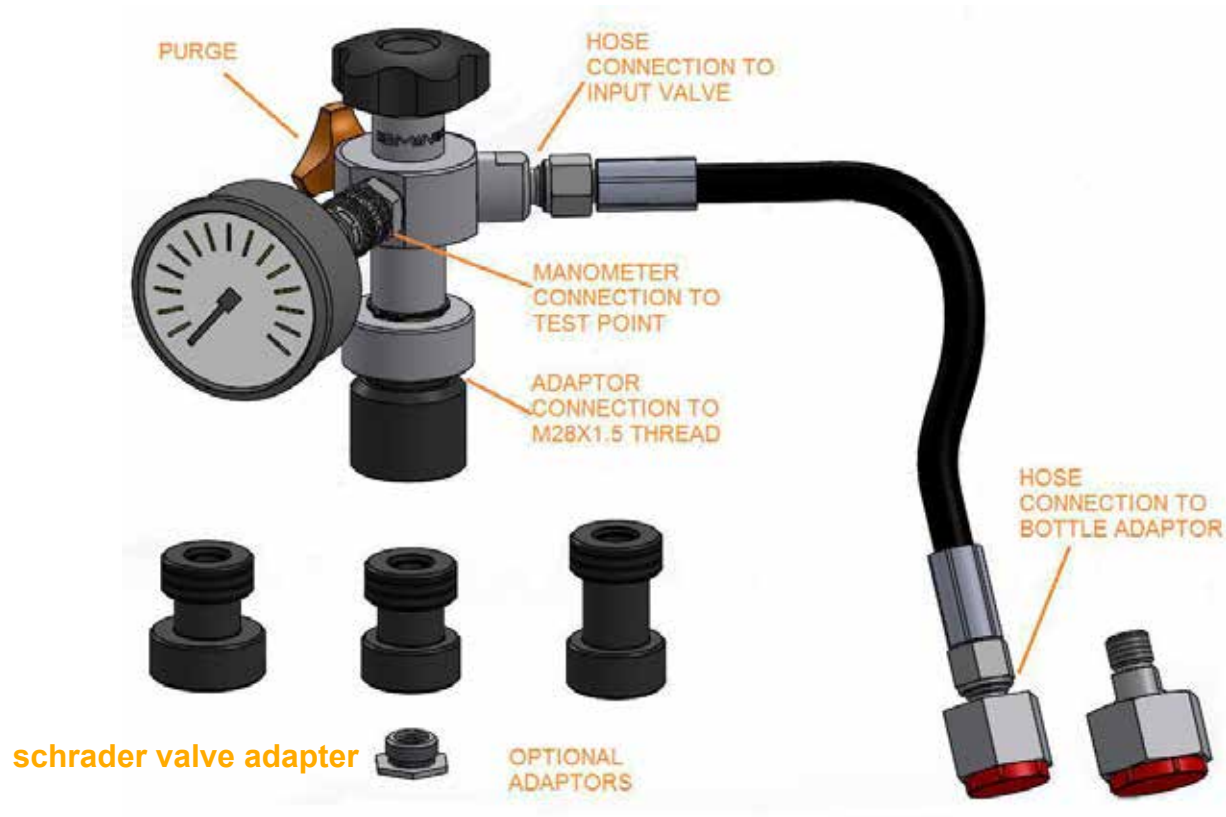
### Verifying the Inflation Pressure:

**Recommendations:** Before proceeding to any operation concerning the initial pressurization of an accumulator, consult the applicable operating instruction.

**Pressurization limits:** According to models refer to the accumulator manual. The nitrogen pressure varies as a function of the gas temperature. After each inflation and deflation of nitrogen, wait for the temperature to stabilize before checking the pressure. This may last several minutes or several tens of minutes depending on the accumulator size. Never exceed the maximum permissible pressure PS or the maximum inflation pressure Po Max indicated on the accumulator or in the instructions accompanying the appliance.

**Accumulator:**

- Remove the plug on the inflation valve side of the accumulator.
- Select the adapter according to the inflation valve.
- Take the Regulator shell from the case, install the pressure gauge compatible with the pressure to be verified, and make sure the bleed valve in safety closed.



 Use o-ring provided for schrader valve adapter

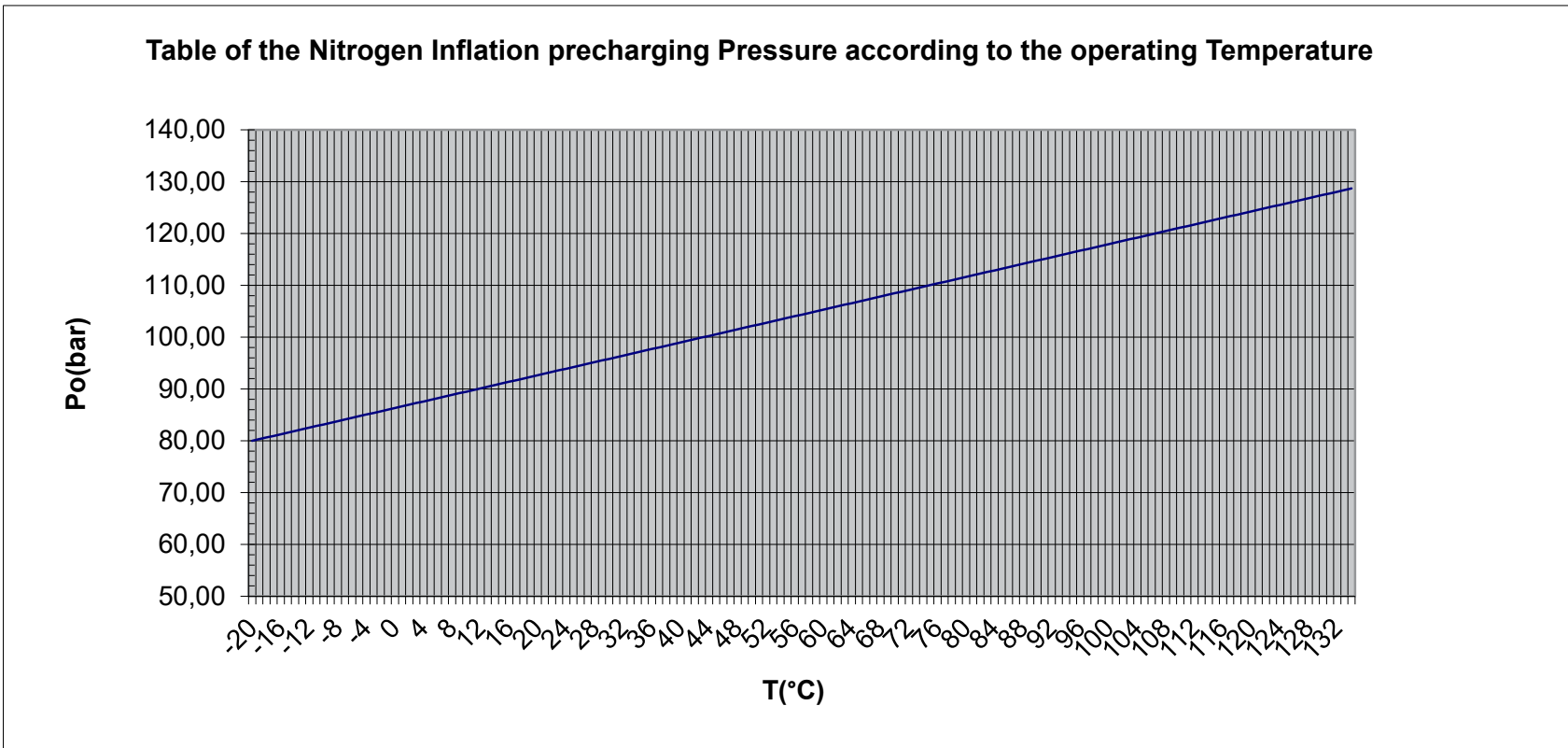
### Connection and Operation:

- Connect the bottle to a ¼ "BSPF female end of the fitted hose: choose the adapter you need for the bottle connection (different country = different adaptor), screw it on the bottle and proceed with the connection to the female fitting of the hose.
- Take the gauge adapter, remove the plastic dust cap in the ¼ " female thread, take a pressure gauge from the case and screw it onto the gauge adapter.
- Get the charger, unscrew the metal cap and screw the pressure gauge onto the male thread.
- Choose the accumulator adapter (5/8" 18UNF – M16x2 – 8V Schrader – 7/8" 14UNF – 3/4" ect.) according to your needs, and screw it on the charger at the female thread M28X1.5.
- Screw the charger onto the accumulator.
- Connect the bottle to the accumulator through the fitted hose.
- Open the passage through the black knob.
- Use the purge to adjust the pressure as needed by rotating the orange knob.
- When the needed pressure is reached (monitor through the pressure gauge), disconnect the fitted hose.
- Make sure that the pre-charge pressure is adequate for the application.
- Make sure that the hydraulic pressure never exceeds the maximum allowed value indicated on the accumulator body.

**Taking into account the temperature influence on the pre-charge pressure:** to observe the working pressure to accumulators, it is suggested to adjust the inflation pressure  $P_o$  according to the operating or control temperature (see graphic)

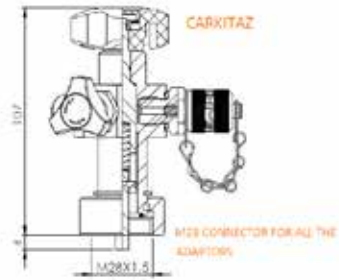
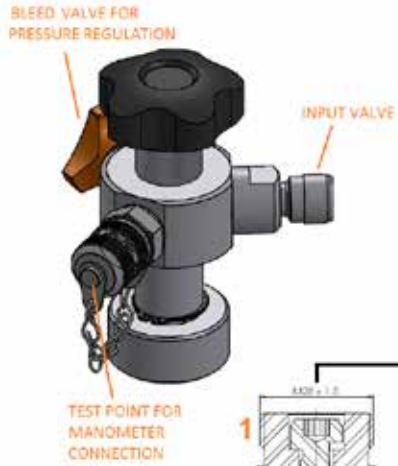
Whereby  $P_o(t_2)$ : inflation pressure at control temperature in Bar (absolute value)  
 $P_o(t)$ : nitrogen pressure  $P_o$  at 20°C in Bar (absolute value)  
 $T_2$ : control of gas inflation temperature  
 $T_o$ : reference temperature 20°C

$$P_o(t_2) = P_o(t_o) \times \frac{T_2 + 273}{T_o + 273}$$

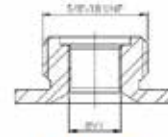




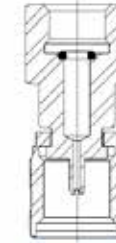
You can choose other customized version – other nitrogen bottle adaptor - other accumulator



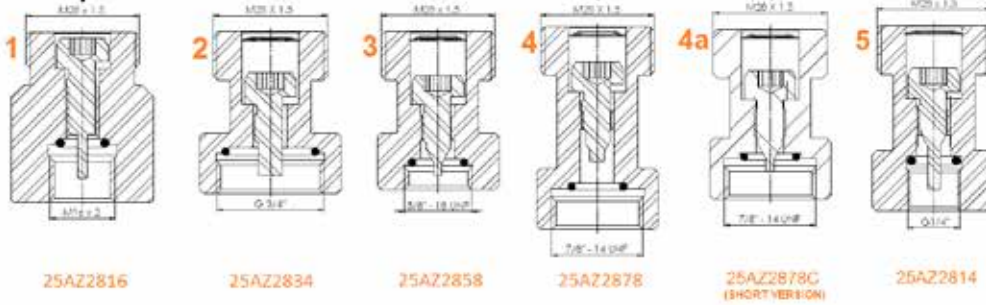
Use o-ring provided for schrader valve adapter



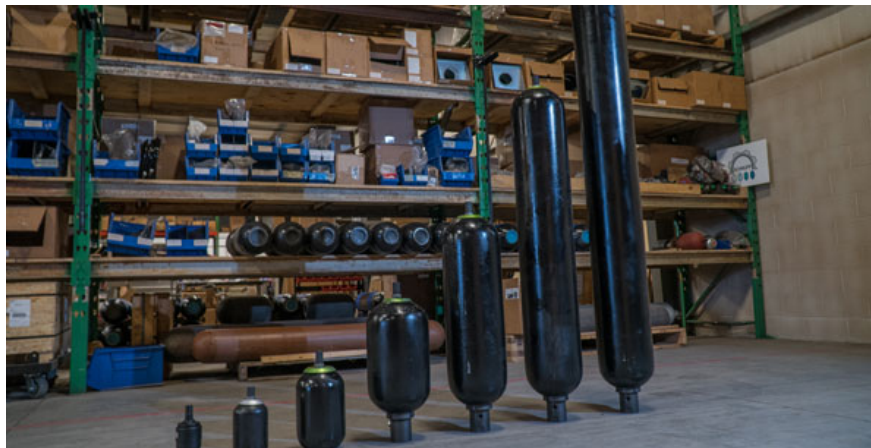
25AZ588V  
Schrader Valve Adapter



20140000  
DIRECT GAUGE ADAPTER



Adapter Part #	Accumulator adaptor
25AZ2814	ADAPTOR M28X1.5 - G1/4"
25AZ2816	ADAPTOR M28X1.5 - M16X2
25AZ2834	ADAPTOR M28X1.5 - G3/4"
25AZ2858	ADAPTOR M28X1.5 - 5/8"-18 UNF
25AZ2878	ADAPTOR M28X1.5 - 7/8"-18 UNF LONG
25AZ2878C	ADAPTOR M28X1.5 - 7/8"-18 UNF SHORT
25AZ588V	ADAPTOR 5/8"-18UNF - 8V1 - SCHRADER



# BLADDER ACCUMULATOR ACCESSORIES



SCA-313  
Charging & Gauging  
Head Assembly



SCA-31 3,000 psi Pressure Gauge  
SCA-49 2,000 psi Pressure Gauge  
SCA-51 5,000 psi Pressure Gauge



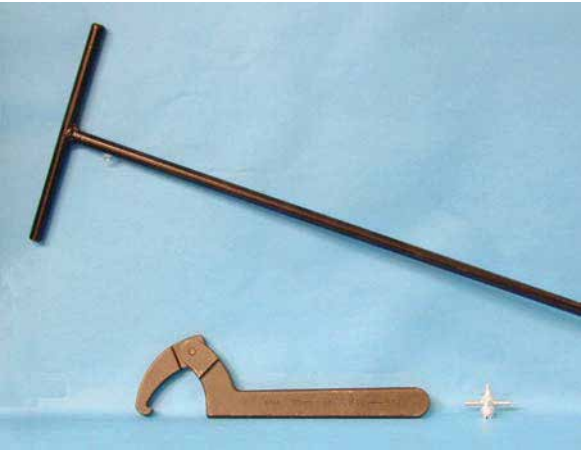
SCA-53 1-15 Gallon Valve Stem  
SCA-52 5,000 psi Gas Valve  
SCA-47 Valve Stem Extension



SCA-314 Head Assembly



SCA-44 Hose Assembly



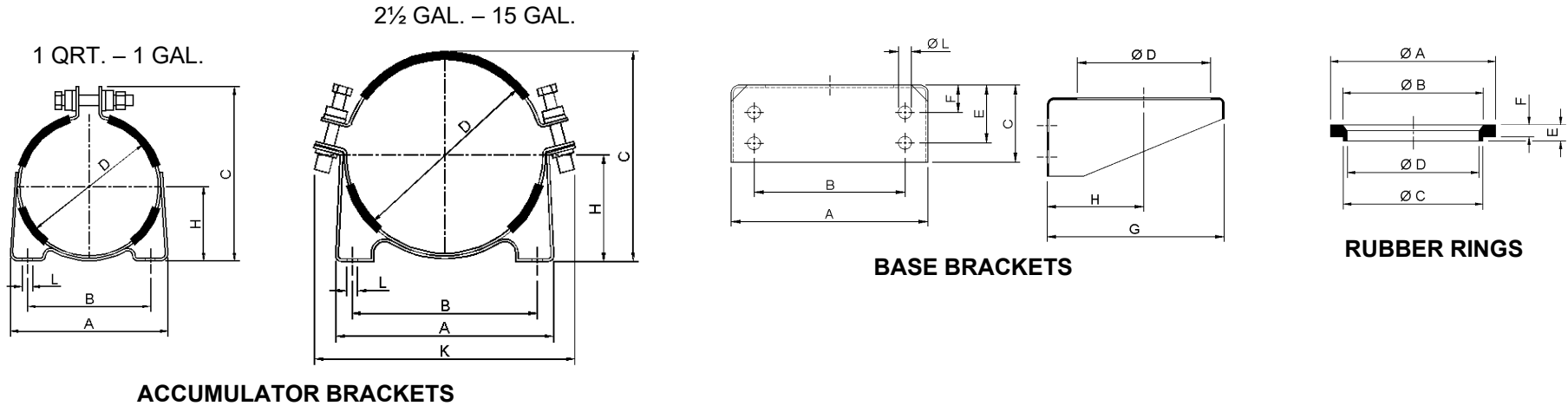
SBP Bag Puller Rod  
SCH-CT Valve Core Cross Type Tool  
SCH-SW Spanner Wrench



SCA-3 Complete 3,000 psi Charging Assembly

# Mounting Brackets for Accumulators

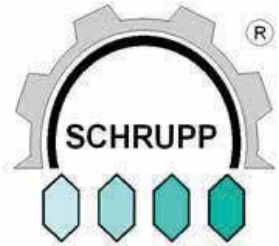
Designed for specific use on Accumulator installation, both Clamps & Bases are supplied complete with Rubber Support to ensure rigid mounting.



ACCUMULATOR BRACKETS									
MODEL	A In. (mm)	B In. (mm)	C In. (mm)	D (DIA.) In. (mm)	H In. (mm)	K In. (mm)	L (Slot) In. (mm)	WIDTH In. (mm)	
SCH-1 QRT	5.26 (134)	3.94 (100)	6.68 (170)	4.51 (115)	2.87 (73)	---	0.35 x 0.50 (8.9 x 12.7)	1.25 (32)	
SCH-1 GAL	7.50 (191)	6.02 (153)	9.00 (229)	6.75 (171)	3.94 (100)	---	0.35 x 0.50 (8.9 x 12.7)	1.25 (32)	
SCH-2.5-15 GAL	10.0 (254)	8.50 (216)	9.67 (246)	8.90 (226)	4.84 (123)	12.5 (317)	0.59 (15)	1.58 (40)	
BASE BRACKETS WITH RUBBER RINGS									
MODEL	A In. (mm)	B In. (mm)	C In. (mm)	D (DIA.) In. (mm)	E In. (mm)	F In. (mm)	G In. (mm)	H In. (mm)	L (DIA.) In. (mm)
SB-1 GAL	10.2 (260)	7.87 (200)	3.94 (100)	4.72 (120)	2.95 (75)	1.38 (35)	8.86 (225)	3.94 (100)	0.67 (17)
SB-2.5-15 GAL	10.2 (260)	7.87 (200)	3.94 (100)	6.69 (170)	2.95 (75)	1.38 (35)	8.86 (225)	4.84 (123)	0.67 (17)
RUBBER RINGS									
MODEL	A In. (mm)	B In. (mm)	C In. (mm)	D (DIA.) In. (mm)	E In. (mm)	F In. (mm)	USE WITH BASE BRACKET NO.		
SCA-138	5.91 (150)	4.72 (120)	4.69 (119)	4.25 (108)	0.79 (20)	0.59 (15)	SB-1 GAL		
SCA-139	7.87 (200)	6.69 (170)	6.65 (169)	6.26 (159)	0.79 (20)	0.59 (15)	SB-2.5 GAL – 15 GAL		

All dimensions subject to change without notice

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- High Pressure Water Hydraulics
- High Pressure Pneumatics
- Hydraulic Accumulators: Piston, Bladder, Diaphragm
- Accumulator Stations



- Piston Accumulators
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- Diaphragm Accumulators
- Accumulator Accessories



- Diaphragm Accumulators
- Instrumentation



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