

## FPK & FPS Series Charging & Gauging Units



### Description

To maintain system performance HYDAC recommends that the gas precharge pressure is checked regularly. A loss in the gas precharge pressure will cause a drop in the system efficiency and could cause damage to the bladder, diaphragm, or piston accumulator.

HYDAC charging and gauging units allow hydro-pneumatic accumulators to be precharged with dry nitrogen. For these purposes, a charging and gauging unit is connected to a commercially available nitrogen bottle via a flexible charging hose.

These units also allow maintenance personnel to check the current gas precharge pressure of an accumulator. For critical systems, consider the use of a permanent gauging block (see page 43) which will allow constant monitoring.

All HYDAC charging and gauging units incorporate a gauge and check valve in the charging connection, and a manual bleed valve with a T-handle.

HYDAC offers two types of charging and gauging units:

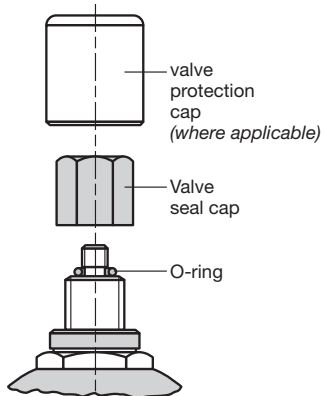
### Model FPS

For use with gas valve version 4.  
(except on top repairable bladder accumulators)



### Gas Valve Version 4

on a Bottom Repairable  
Bladder Accumulator

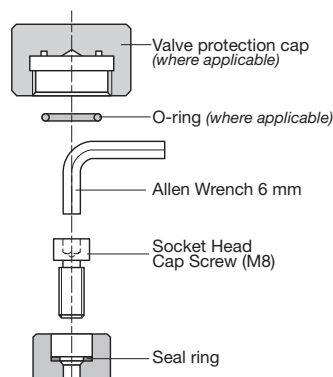


### Model FPK

For use with gas valve version 1.

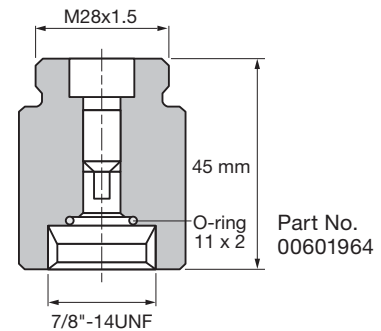


### Gas Valve Version 1



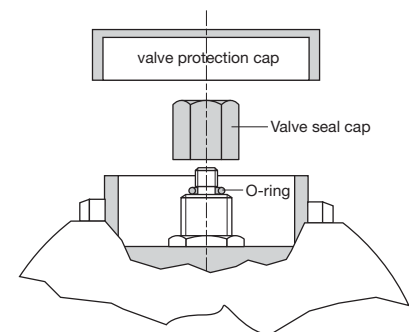
### Adapter A3 (FPK/SB)

An adapter that must be used with the FPK model in order to fit HYDAC gas valve version 4, including top repairable bladder accumulators.



### Gas Valve Version 4

on a Top Repairable Bladder  
Accumulator



# Charging & Gauging Units **HYDAC**

## Model Code

	FPS	250	F	2.5	G4	K
<b>Series</b>	_____					
FPK	= for use with Gas Valve Version 1 (M28 x 1.5) for SBO and SK					
FPS	= for use with Gas Valve Version 4 (8VI-ISO 4570) for SB, SBO and SK					
NOTE: SB Top repairable bladder accumulators must use FPK with FPK/SB adapter						
<b>Gauge Pressure Range</b>	_____					
10	=	0 to 145 psi				(0 to 10 bar)
25	=	0 to 350 psi				(0 to 25 bar)
100	=	0 to 1400 psi				(0 to 100 bar)
250	=	0 to 3500 psi				(0 to 250 bar)
400	=	0 to 5800 psi				(0 to 400 bar)
<b>Charging Hose</b>	_____					
F	=	with cap screw G1 (thread W24, 32x1/14 - DIN477)				
<b>Charging Hose Length</b>	_____					
2.5	=	8 ft. (2.5 m)				
4.0	=	13 ft. (4 m)				
<b>Adapter</b>	_____					
G4	=	USA (only for CGA 580 gas bottle connections)				
G4.1	=	USA (only for CGA 680 gas bottle connections) only available with 400 bar Gauge and integral 4m high-pressure hose				
G1	=	Germany (integral part of charging hose)				
G2	=	Australia, Great Britain, India				
G3	=	France				
G5	=	Italy				
G6	=	Japan - Taiwan				
G7	=	Japan - South Korea				
G8	=	Brazil				
G9	=	China				
G10	=	Russia				
<b>Case</b>	_____					
K	=	plastic carrying case (standard)				

### Additional Accessories:

ADAPTER A3 (FPK/SB) = adapter for using FPK Charging Unit with top repairable bladder accumulators

NOTE: for other adapters please consult factory.

6mm Allen Wrench (for HYDAC Gas Valve Version 1)

14mm Open End Wrench (for HYDAC gauge)

Operating and Installation Instructions are included with each charging kit.

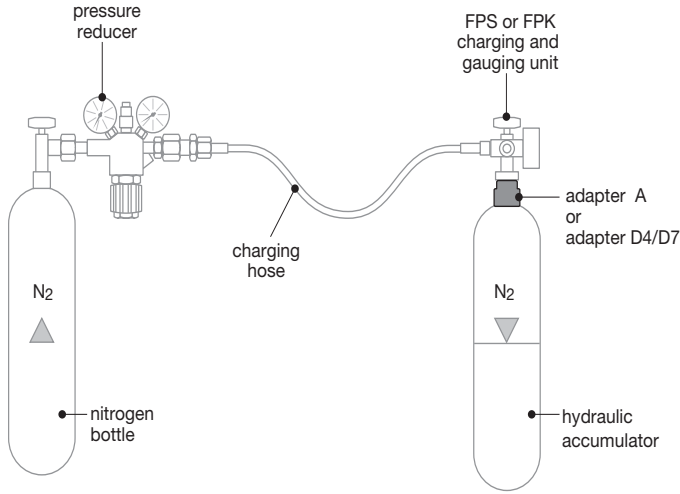
This is also available for download in PDF format on our web site: [www.hydacusa.com](http://www.hydacusa.com)

For spare parts see page 65.

Note: For Oil, Gas & Marine specific charging & gauging units please refer to page 48

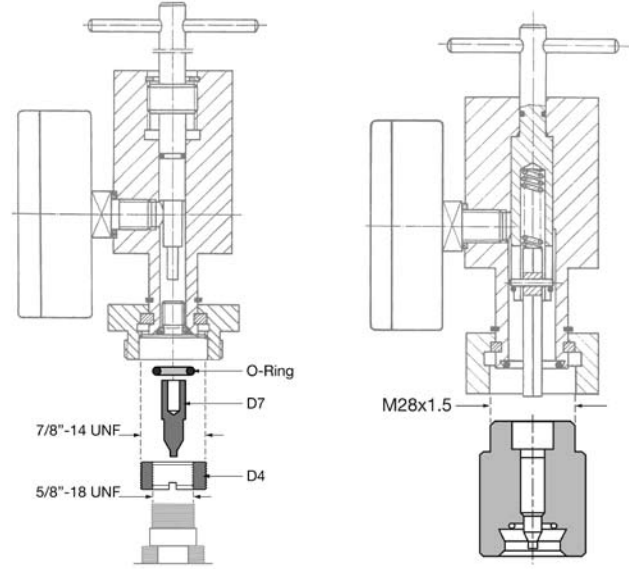
## Charging & Gauging Adapters

Connecting Charging & Gauging Units to 3000 psi Accumulators



**FPS Unit  
with Adapter D4/D7**

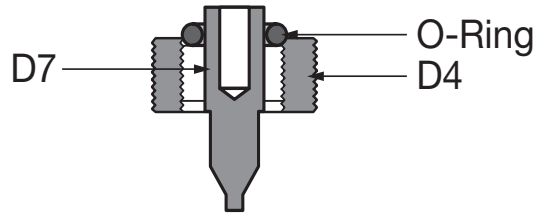
**FPK Unit  
with Adapter A\***



### Adapter D4/D7

Part Number 02067646

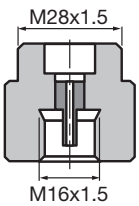
Used with FPS Charging & Gauging Unit



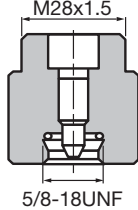
### \*A Adapters

Used with FPK Charging & Gauging Unit

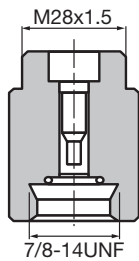
**A1**  
PN 00361619



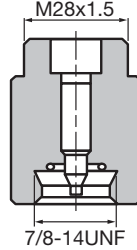
**A2**  
PN 0031605



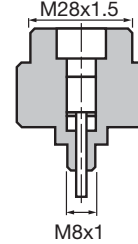
**A3 (ADAPTER FPK/SB)**  
PN 00291533



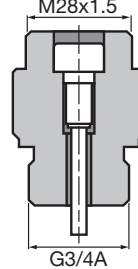
**A4**  
PN 00291536



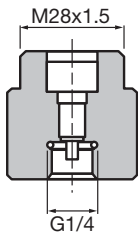
**A5**  
PN 00291531



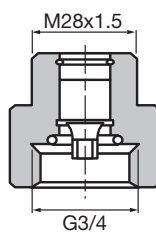
**A6**  
PN 02108819



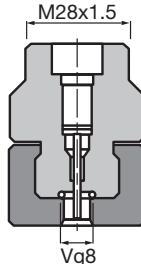
**A7**  
PN 02110629



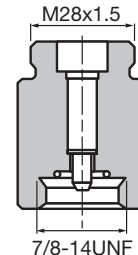
**A8**  
PN 02124524



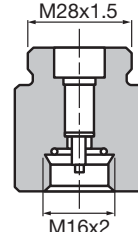
**A9**  
PN 02128638



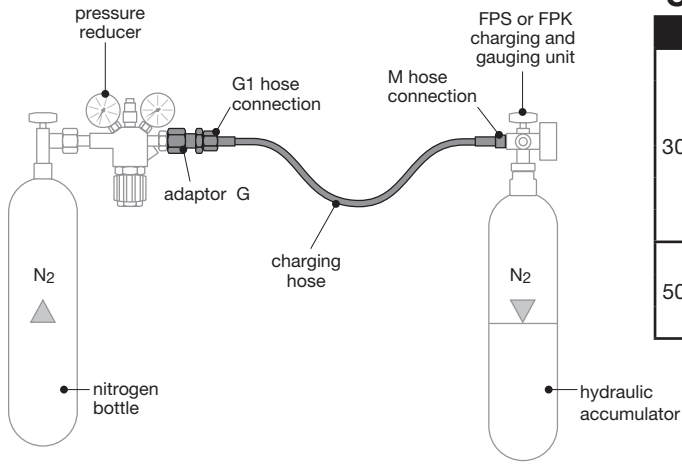
**A10**  
PN 02128849



**A11**  
PN 03018210



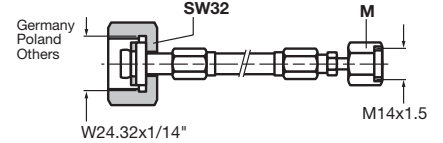
## Connecting Charging Hose to Gas Bottle



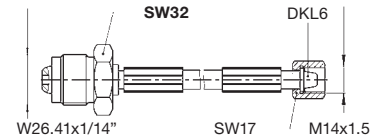
### Charging Hoses

WP	Length	Part No.
3000 psi	2.5 m	00236514
	4.0 m	00236515
	10.0 m	00373405
	15.0 m	02115552
	20.0 m	02109765
5000 psi	2.5 m	3053703
	4.0 m	3053704
	10.0 m	3117720

#### G1 PN Hose Connection



#### CGA 680 Adapter 5000 psi



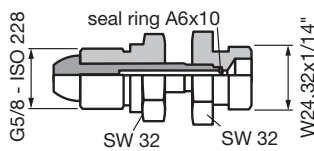
## G Adapters

From N2 Bottle to Charging Hose

### G2

PN 00236376

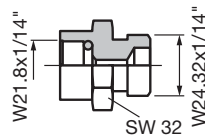
Australia  
Argentina  
Great Britain  
Vietnam  
Others



### G3

PN 02103421

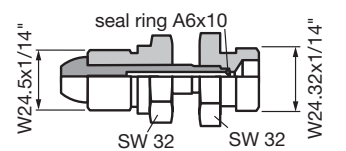
Egypt  
Lebanon  
Israel  
Others



### G4

PN 02068737

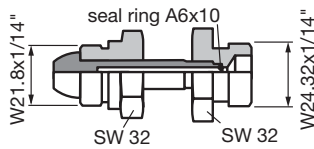
USA  
Canada  
Puerto Rico



### G5

PN 00236373

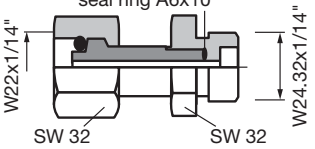
Italy



### G6

PN 02103423

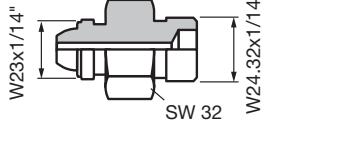
Japan



### G7

PN 00236377

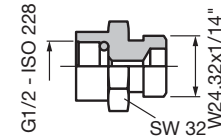
Korea



### G8

PN 02103425

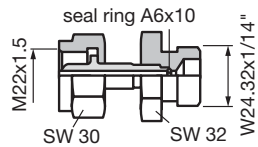
Brazil  
Chile  
Columbia  
Others



### G9

PN 00241168

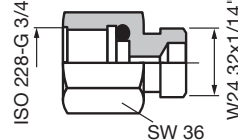
Taiwan



### G10

PN 02103427

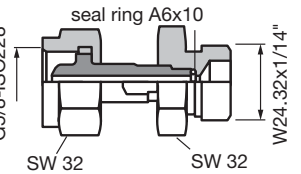
Russia  
Trinidad  
Tobago  
Venezuela



### G11

PN 03018678

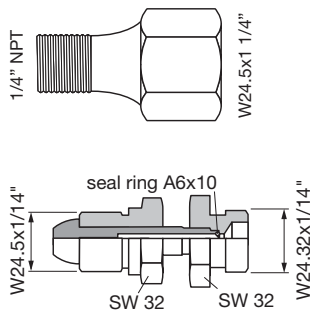
China



## CGA 580 Adapter (for USA only)

PN 02701355

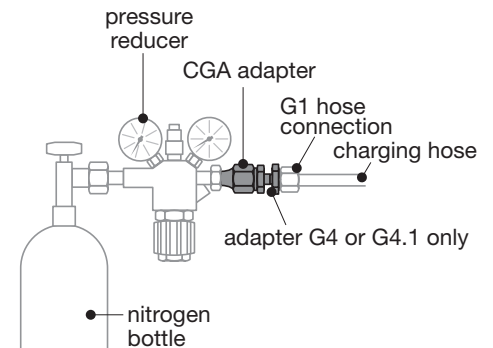
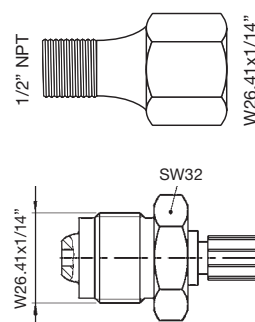
From G4 Adapter to Regulator



## CGA 680 Adapter (for USA only)

PN 02701356

From G4.1 Adapter to Regulator



## FPO Series Charging and Gauging Units



### Description

To maintain system performance HYDAC recommends that the gas precharge pressure is checked regularly. A loss in the gas precharge pressure will cause a drop in the system efficiency and could cause damage to the bladder, diaphragm, or piston accumulator.

HYDAC charging and gauging units allow hydro-pneumatic accumulators to be precharged with dry nitrogen. For these purposes, a charging and gauging unit is connected to a commercially available nitrogen bottle via a flexible charging hose.

These units also allow maintenance personnel to check the current gas precharge pressure of an accumulator. For critical systems, consider the use of a permanent gauging block which will allow constant monitoring.

All HYDAC charging and gauging units incorporate a gauge and check valve in the charging connection, and a manual bleed valve with a T-handle.

### Model Code

<b>Charging and Gauging Unit</b>	FPO	210	F	3	- K
FPO = for use with Gas Valve Version 4 (8VI-ISO 4570) for SB, SBO and SK					
<b>Gauge Pressure Range</b>	210				
210 = 0 to 3000 psi (0 to 210 bar)					
<b>Charging Hose</b>	F				
F = with nitrogen bottle connection CGA-580					
<b>Charging Hose Length</b>	3.0				
3.0 = 10 ft. (3 m)					
<b>Case</b>	K				
K = plastic carrying case (standard)					

### Additional Accessories:

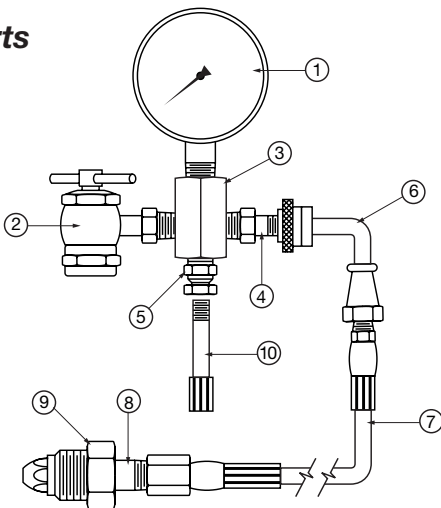
Gas Valve Extension Rod - to be used with top repairable accumulators

Operating and Installation Instructions are included with each charging kit.

This is also available for download in PDF format on our web site: [www.hydacusa.com](http://www.hydacusa.com)

Note: For the full line of charging & gauging units please refer to page 37

### Parts



Part Description	Item	Quantity	Part No.
FPO 210 Replacement Kit consists of:			
Pressure Gauge, 3000 PSI	1	1	02701622
T-Handle Lock Chuck	2	1	02701615
Charging Manifold, FPO	3	1	consult factory
Tank Valve	4	1	02701617
Bleeder Valve	5	1	consult factory
Hose Assembly FPO 210 (CGA 580) consists of:			
High Pressure Coupling (swivel) 1/8" NPT	6	1	02701590
Hose, FPO 3000 PSI, 3m	7	1	02701621
Nipple Gland, CGA-580	8	1	02701620
Nut, CGA-580	9	1	02701619
Top Repairable Gas Valve Extension	10	1	02701741