

Enerpac System Components: all the additional elements you need to complete your high pressure hydraulic system and get started.

Engineered to work with your Enerpac cylinders, pumps and tools, all Enerpac components are designed to the most exacting standards.

With this complete line of hydraulic hoses, couplers, fittings, manifolds, oil and gauges, Enerpac has the accessories to complement your system and ensure the efficient operation, long life and safety of your hydraulic equipment.



Yellow Pages

For sample system set-ups and how to correctly specify your system components, please view the Enerpac "Yellow Pages" section in this catalogue.

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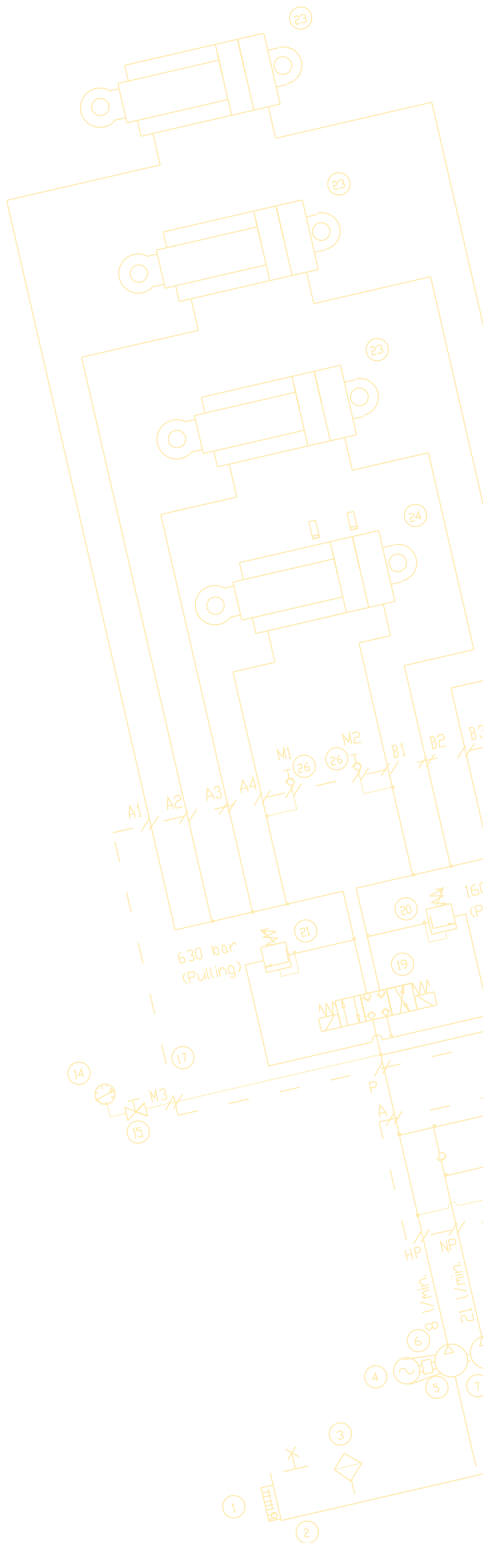















Maintain System Integrity

Use Enerpac System Components, designed to interface with Enerpac cylinders, pumps and tools to ensure your system operates at peak performance.



System Components & Control Valves Overview



Component Type	Series		Page
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▼ Shown: HC-7206



Thermo-Plastic Safety Hoses (700-Series)

- For demanding applications, featuring a 4:1 safety factor
- Maximum working pressure of 700 bar
- Outside jacket is polyurethane, to provide maximum abrasion resistance
- Exhibits low volumetric expansion under pressure to enhance overall system efficiency
- Crimped-on rubber strain relief for improved life and durability on all models.

▼ To prevent back pressure and to increase cylinder retraction speed, when using long hoses with single-acting cylinders, the Enerpac HC-7300-Series of hoses with increased internal diameter is the best choice.



Safety and Quality



To ensure the integrity of your system, specify only Enerpac hydraulic hoses.

WARNING !

- Do not exceed 700 bar maximum pressure.
- Do not handle hoses which are under pressure.

More safety instructions in our 'Yellow pages'.

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▼ Hose End Couplings

1/4" NPTF	
3/8" NPTF	
A-604	
A-630	
AH-604	
AH-630	
C-604	
CH-604	

High Pressure Hydraulic Hoses



Hose Oil Capacity

When using greater hose lengths, it is sometimes necessary to fill the pump reservoir after filling the hoses.

To determine the hose oil capacity, use the following:

For 6,4 mm inside diameter hoses:

Capacity (cm³) = 32,1699 x Length (m)

For 9,7 mm inside diameter hoses:

Capacity (cm³) = 73,8981 x Length (m)

Internal Diameter (mm)	Hose End Assemblies and Couplers *		Hose Length (m)	Model Number	Weight (kg)		
	End one	End two					
6,4	1/4" NPTF		-	-	-		
			-	-	-		
		A-630	1,8	HB-7206QB	1,1		
			-	-	-		
	3/8" NPTF	CH-604		1,8	HC-7206Q	1,0	
				0,6	H-7202	0,5	
					0,9	H-7203	0,7
					1,8	H-7206	0,9
					3,0	H-7210	1,4
					6,1	H-7220	2,8
					9,1	H-7230	4,5
					15	H-7250	7,0
		A-604		-	-	-	
				1,8	HA-7206B	1,1	
		3/8" NPTF	AH-604		-	-	
					-	-	
					-	-	
				1,8	HA-7206	1,0	
				3,0	HA-7210	1,5	
				1,8	HB-7206	1,0	
	C-604		0,9	HC-7203B	1,0		
			1,8	HC-7206B	1,3		
			3,0	HC-7210B	1,8		
	CH-604			0,9	HC-7203	0,8	
			1,8	HC-7206	1,0		
			3,0	HC-7210	1,5		
			6,1	HC-7220	2,9		
CH-604	CH-604		1,8	HC-7206C	1,1		
			15	HC-7250C	7,0		
9,7	3/8" NPTF		1,8	H-7306	1,6		
				-	-		
			3,0	H-7310	2,4		
			6,1	H-7320	4,5		
			9,1	H-7330	7,3		
			15	H-7350	11,5		
		CH-604		1,8	HC-7306	1,7	
				3,0	HC-7310	2,5	
				6,1	HC-7320	5,1	

* For technical information on couplers see next page.

H700 Series



Inside Diameter:

6,4 - 9,7 mm

Length:

0,6-15 m

Maximum Operating Pressure:

700 bar



GA45GC Gauge Adaptor

Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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Torque Wrench Hoses

Use Enerpac twin safety hoses with double-acting wrenches to ensure the integrity of your hydraulic system.

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Fittings

For additional fittings see the fitting page of the System Components section.

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Premium Hydraulic Oil

Use only genuine Enerpac hydraulic oil. Wrong fluid can destroy seals and pump and will render your warranty null and void your guarantee.

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▼ Shown: FH-604, FR-400, AR-630, C-604, AH-604, AR-400



3/8" High Flow Couplers

- Standard equipment on most Enerpac cylinders
- Recommended for use on all Enerpac pumps and cylinders where space and porting permits
- Includes "2-in-1" dust cap for use on male and female couplers

3/8" High Pressure 'Flush-face' Couplers

- Featuring "Push-to-connect" operation, to guarantee good connection every time
- Flush-face, zero-leak operation for minimal spillage and reduced pressure drop
- HTMA* recognized for safety and performance
- Will not interchange with low pressure couplers

3/8" Regular Spee-D-Couplers®

- For medium duty applications with hand pumps
- Includes female aluminium dust cap

1/4" Regular Couplers

- For use with small cylinders and hand pumps
- Includes female aluminium dust cap

1/4" Spin-on Torque Wrench Couplers

- For use with 700 bar S and W-Series torque wrenches, THQ-Series hoses and 700 bar torque wrench pumps

Quick Connection of Hydraulic Lines



Thread sealer

To seal NPTF threads use one of the new anaerobic thread sealers or Teflon paste. When using Teflon Tape, apply the tape one thread from the end of a fitting to prevent it from winding up in the hydraulic system.



WARNING!

Couplers should be pressurized only when completely connected and should not be coupled or uncoupled when pressurized.
More safety instructions in our 'Yellow Pages'.

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F-Series

Flush-faced couplers provide reduced pressure drop versus other types and are preferred in dirty, grimy construction and mining environments due to easy clean, non-dirt trapping faces.

▼ With the use of Enerpac high flow couplers, hoses are easily installed for multiple hydraulic line connections in this 34 points PLC-controlled lifting system.



* Hydraulic Tool Manufacturers Association.

Hydraulic Couplers



CT-604 Safety Tool

Use the Enerpac CT-604 to relieve hydraulic back pressure by safely bleeding the hydraulic coupler.

Minimize injuries from projectile parts and under-skin hydraulic fluid injections by eliminating unsafe coupler bleeding practices. The CT-604 is Enerpac-engineering safe for use at 700 bar.

NOTE: For use on C-Series 700 bar High-Flow Couplers only

A, C, F, T Series



Maximum Flow Capacity:

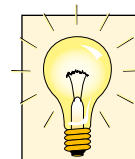
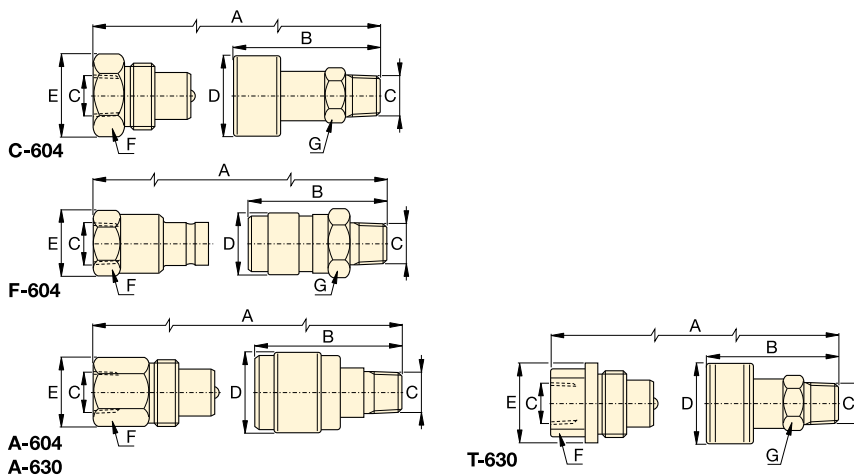
6,1 - 40,0 l/min

Thread:

1/4" - 3/8" NPTF

Maximum Operating Pressure:

700 - 800 bar








Metal Dust Caps

Steel dust caps are available for the C-604 series couplers.

Order model number:

CD-411M for female half

CD-415M for male half

Maximum Flow Capacity (l/min)	Coupler Type	Model Numbers			Dimensions (mm)							Dust Cap(s) Modelnr.
		Complete Set	Female Half	Male Half	A*	B	C	D	E	F	G	
35	700 bar High-Flow Coupler 	C-604	CR-400	CH-604	83	64	3/8" NPTF	35	36	32	25	(2x) CD-411
40	700 bar Flush-Face coupler 	F-604	FR-400	FH-604	111	72	3/8" NPTF	31	31	27	29	-
7,6	700 bar Regular Spee-D-Coupler® 	A-604	AR-400	AH-604	77	42	3/8" NPTF	28	26	23	19	Z-410 female only
7,6	700 bar Regular Coupler 	A-630	AR-630	AH-630	66	35	1/4" NPTF	22	20	19	15	Z-640 female only
11,4	700 bar Spin-on Coupler 	T-630	TR-630	TH-630	73	60	1/4" NPTF	29	29	19	21	-

* Value A is total length when male and female half are connected.

▼ Shown: HF-102L, HF-105L



The Genuine Range

Premium Hydraulic Oil

Contents	Model Number	Use only genuine Enerpac Hydraulic Oil. The use of any other fluid will render your Enerpac warranty null and void.
5 litres	HF-105L	
20 litres	HF-102L	
205 litres	HF-104L	

▼ OIL SPECIFICATION CHART

Viscosity Index	100 min
Viscosity (cSt @ 40 °C)	32
API Gravity	31-33
Density (cSt @ 15 °C)	875
Flash point	204 °C
Pour point	-32 °C
Colour	Blue
Working Temperature Range	0 - 60 °C
Ideal working temperature	40 °C

- Maximum pump volumetric efficiency
- Maximum internal heat transfer
- Prevents pump cavitation
- Additives prevent rust, oxidation and sludge
- High viscosity index
- Maximum film protective lubricity.

Manifolds

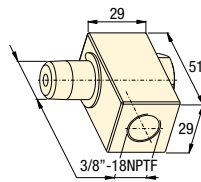
Description	Model Number	Dimensions (mm)
7-port Manifold, short	A-64	
7-port Manifold, long allows direct mounting of control valves to the manifold.	A-65	
6-port Manifold, hexagon Plugs furnished for all ports 3/8"-18 NPTF.	A-66	
Control Manifolds For control of two or four single-acting cylinders simultaneously. AM-21 with 5 ports 3/8"NPTF. AM-41 with 7 ports 3/8"NPTF.	AM-21 AM-41	

Hydraulic Oil, Manifolds and Fittings



3/8" Swivel Connector

360 degree swivel coupler for optimal orientation of the hydraulic connection on cylinders, pumps and hoses.
Order Model Number. **XSC-1**



**A, AM
BFZ
FZ
HF
Series**



700 bar Fittings		Model Number	Dimensions (mm)		C	D	Diagram	
			A	B				
Street Elbow			FZ-1616	23	33	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF Male	To: 3/8"-NPTF Female							
Reducing Connector			FZ-1615	28	25	3/8"-18 NPTF	1/4"-18 NPTF	
From: 3/8"-NPTF Female	To: 1/4"-NPTF Female							
From: 1/2"-NPTF Female	To: 3/8"-NPTF Female	FZ-1625	47	29	1/2"-14 NPTF	3/8"-18 NPTF		
Hexagon Nipple			FZ-1608	38	16	1/4"-18 NPTF	1/4"-18 NPTF	
From: 1/4"-NPTF	To: 1/4"-NPTF							
From: 3/8"-NPTF	To: 3/8"-NPTF							
From: 3/8"-NPTF	To: 3/8"-NPTF							
Coupling			FZ-1614	29	23	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF	To: 3/8"-NPTF							
From: 1/4"-NPTF	To: 1/4"-NPTF	FZ-1605	29	19	1/4"-18 NPTF	1/4"-18 NPTF		
Cross			FZ-1613	45	25	3/8"-18 NPTF	-	
From: 3/8"-NPTF Female	To: 3/8"-NPTF Female							
Tee			FZ-1612	45	25	3/8"-18 NPTF	-	
From: 3/8"-NPTF	To: 3/8"-NPTF							
From: 1/4"-NPTF	To: 1/4"-NPTF							
Street Tee			BFZ-16312	56	26	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF Female	To: 3/8"-NPTF Male							
Elbow			FZ-1610	33	20	3/8"-18 NPTF	-	
From: 3/8"-NPTF	To: 3/8"-NPTF							
From: 1/4"-NPTF	To: 1/4"-NPTF	FZ-1638	36	24	1/4"-18 NPTF	-		
Reducer			FZ-1630	19	19	1/4"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF	To: 1/4"-NPTF							
From: 1/4"-NPTF	To: 1/2"-NPTF							
From: 3/8"-NPTF	To: G1/4"	BFZ-16301	19	19	G1/4"	3/8"-18 NPTF		
Adaptor			BFZ-16411	35	19	1/4"-18 NPTF	G1/4"	
From: G1/4"	To: 1/4"-NPTF							
From: G1/4"	To: 1/8"-NPTF							
From: G3/8"	To: 1/4"-NPTF							
From: G3/8"	To: 3/8"-NPTF	BFZ-16421	31	19	1/8"-27 NPTF	G1/4"		
From: G3/8"	To: 1/4"-NPTF	BFZ-16323	43	24	1/4"-18 NPTF	G3/8"		
From: G3/8"	To: 3/8"-NPTF	BFZ-16324	43	24	3/8"-18 NPTF	G3/8"		
Adaptor			FZ-1055	44	23	1/4"-18 NPTF	3/8"-18 NPTF	
From: 1/4"-NPTF	To: 3/8"-NPTF							
From: 1/4"-NPTF	To: 1/8"-NPTF							
From: 1/2"-NPTF	To: 3/8"-NPTF	FZ-1642	30	19	1/8"-27 NPTF	1/4"-18 NPTF		
From: 1/2"-NPTF	To: 3/8"-NPTF	FZ-1634	42	28	3/8"-18 NPTF	1/2"-18 NPTF		
Swivel Fitting			FZ-1660	40	22	3/8"-18 NPTF	3/8"-18 NPTF	
From: 3/8"-NPTF Male	To: 3/8"-NPTF Female							

▼ Shown from left to right: GF-230B, GF-835B, GP-10S



- **GF-series gauges:** calibrated with dual scale reading for pressure in bar and force in kN
- **GF-series gauges:** all pressure sensing parts are sealed and dampened by glycerine for long life
- **GP-series gauges:** calibrated with dual scale reading for pressure in bar and psi
- **Excellent readability:** gauge face dimensions 100 mm
- **Fast, easy installation**
- **Stainless steel gauge cases for corrosion resistance.**

▼ A GP-10S gauge is used on this press to check the hydraulic pressure required to bend flat steel bar.



Visual Reference for System Pressure and Force



Auto-Damper Valve V-10

For automatic control of gauge fluctuations, the V-10 Auto-Damper Valve controls the movement of the gauge needle

by restricting oil flow in and out of the gauge. No adjustments needed.

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Snubber Valve V-91

Infinitely adjustable for metering oil out of a gauge. The V-91 Snubber Valve is also suitable as a shut-off valve to protect the gauge during

high cycle applications.

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Used With Cylinders

	All Cylinders
	All Cylinders
	5 ton RC, RSM Cylinders
	10 ton RC, RCS, RSM Cylinders
	All 25 ton RC-Cylinders
	All 50 ton RC, RR-Cylinders
	13 ton RCH-Series
	RCS-201, 302
	RCS-502, 1002
	RCH-202, 302, 603
25, 30, 50 ton RC, RCS, RSM, RR	
All 75 and 95 ton RC, RR	
All 150, 200 ton RR cylinders	
	10 ton Presses
	25 ton Presses
	50 ton Presses
	75 and 100 ton Presses
	150 and 200 ton Presses

Hydraulic Force & Pressure Gauges



Maximum Indicator Pointer

Indicator retains peak readings of pressure or force generated by the system.

Can easily be installed on GP and H-Series gauges.
Order model number: **BSA-881**.



Pressure Gauges

To measure the input pressure into cylinders or high pressure systems. Also for all testing applications.

Force Gauges

To measure external load supported by a cylinder or jack in kN. For pressing parts together under pre-determined loads, weighing, testing, etc.

GP-Series are dry gauges.

GF-Series are glycerine filled gauges.

GF GP Series



Pressure Range:

0 - 1000 bar

Force Range:

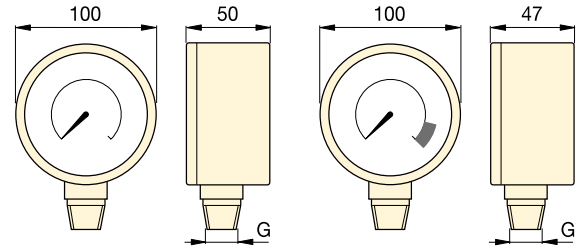
0 - 2000 kN

Gauge Face Diameter:

100 mm




Accuracy, % of full scale:

± 1%



GP-serie

GF-serie

Gauge Type and Calibration				Units per Division	Model Number *	Thread G	Gauge Adaptor		
							 127		
bar	psi	bar	kN ¹⁾				Required		
							GA-1	GA-2	GA-3
0-700	0-10.000	-	-	10 bar, 100 psi	GP-10S	1/2" NPTF	●	●	
0-1000	0-15.000	-	-	10 bar, 200 psi	GP-15S	1/2" NPTF	●	●	
-	-	0-700	0-45	10 bar, 0,5 kN	GF-5B	1/2" NPTF	●	●	
-	-	0-700	0-100	10 bar, 1 kN	GF-10B	1/2" NPTF	●	●	
-	-	0-700	0-232	10 bar, 2 kN	GF-20B	1/2" NPTF	●	●	
-	-	0-700	0-500	10 bar, 5 kN	GF-50B	1/2" NPTF	●	●	
-	-	0-700	0-124	10 bar, 1 kN	GF-120B	1/2" NPTF	●	●	
-	-	0-700	0-175/275	10 bar, 2 + 5 kN	GF-230B	1/2" NPTF	●	●	
-	-	0-700	0-450/900	10 bar, 5 + 10 kN	GF-510B	1/2" NPTF	●	●	
-	-	0-700	0-210/320/570	10 bar, 5 kN	GF-813B	1/4" NPTF			●
-	-	0-700	0-232/300/500	10 bar, 5 kN	GF-835B	1/4" NPTF			●
-	-	0-700	0-720/930	10 bar, 10 kN	GF-871B	1/4" NPTF			●
-	-	0-700	0-1400/2000	10 bar, 25 kN	GF-200B	1/4" NPTF			●
-	-	0-700	0-100	10 bar, 1 kN	GF-10B	1/2" NPTF	●	●	
-	-	0-700	0-232	10 bar, 2 kN	GF-20B	1/2" NPTF	●	●	
-	-	0-700	0-500	10 bar, 5 kN	GF-50B	1/2" NPTF	●	●	
-	-	0-700	0-720/930	10 bar, 10 kN	GF-871B	1/4" NPTF			●
-	-	0-700	0-1400/2000	10 bar, 25 kN	GF-200B	1/4" NPTF			●

* GF-Series Force gauges with imperial scale reading (psi, lbs) are available by changing the suffix 'B' into 'P'.

¹⁾ Depending on cylinder model, force indication can deviate.

▼ Shown from left to right: H4049L, G-2534R, G-4089L, G-2535L, G-4040L



Glycerine Filled (G-Series)

- Dual scale reading calibrated in bar and psi
- All pressure sensing parts sealed and dampened by glycerine for long life
- Includes safety blow-out disk and pressure equalizing membrane
- Gauge snubbers or needle valves recommended for high cycle applications.

High Cycle Dry Gauges (H-Series)

- Dual scale reading calibrated in bar and psi
- Ideal for use in many applications, specifically for high cycle and harsh environments
- Gauge snubbers or needle valves recommended to shut off gauge when not in use.



Visual Reference of System Pressure



Gauge adaptor assembly

45° Angled gauge adaptor **GA45GC** improves safe working conditions.

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Gauge Adaptor

For easy gauge installation into almost any system, Enerpac offers a complete line of gauge adaptors.

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Snubber Valve V-91

Infinitely adjustable for metering oil out of a gauge. The V-91 Snubber Valve is also suitable as a shut-off valve to protect the gauge during

high cycle applications.

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◀ When lifting or pressing, always use a gauge. A gauge is your 'window' to the system. It lets you see what's going on.

Hydraulic Pressure Gauges



CAUTION!
When lifting or pressing,
always use a gauge.

Do not override factory setting of relief valves. Always use a gauge to check system pressure. A gauge is your 'window' to the system. It lets you see what's going on. See our Safety Instructions.

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G H Series



Pressure Range:

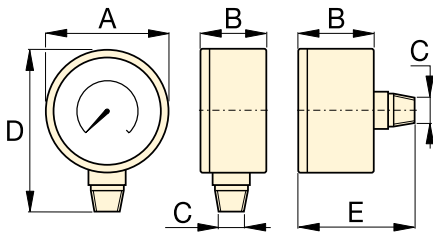
0 - 1000 bar

Face Diameter:

63 - 100 mm

Accuracy, % of full scale:

± 1,0 - 1,5%



Size (mm)	Connection	Dimensions (mm)				
		A	B	C	D	E
63	Lower Mount	63	37	¼" NPTF	84	–
63	Center Rear	63	37	¼" NPTF	–	63
100	Lower Mount	100	29	¼" NPTF	121	–
100	Lower Mount	100	49	½" NPTF	136	–

Note: dimensions for reference only.



Maximum Indicator Pointer

Indicator retains peak readings of pressure or force generated by the system.

Can easily be installed on GP and H-Series gauges. Order model number: **BSA-881**.

▼ SELECTION CHART

Gauge Series	Pressure Range		Model Number				Major Graduation		Minor Graduation		Major Graduation		Minor Graduation	
			ø 63 ¼" NPTF Lower Mount	ø 63 ¼" NPTF Center Rear	ø 100 ¼" NPTF Lower Mount	ø 100 ½" NPTF Lower Mount	bar		psi		bar		psi	
	(bar)	(psi)	Accuracy: ± 1,5 %		Accuracy: ± 1,0 %		ø 63	ø 100	ø 63	ø 100	ø 63	ø 100	ø 63	ø 100
G-Series	0-7	0-100	G2509L	–	–	–	1	–	0,01	–	10	–	2	–
	0-11	0-160	G2510L	–	–	–	1	–	0,02	–	10	–	2	–
	0-14	0-200	G2511L	–	–	–	1	–	0,02	–	50	–	5	–
	0-20	0-300	G2512L	–	–	–	5	–	0,50	–	50	–	5	–
	0-40	0-600	G2513L	–	–	–	10	–	1	–	100	–	10	–
	0-70	0-1.000	G2514L	G2531R	–	–	10	–	1	–	100	–	20	–
	0-140	0-2.000	G2515L	–	–	–	10	–	5	–	500	–	50	–
	0-200	0-3.000	G2516L	–	–	–	50	–	5	–	500	–	50	–
	0-400	0-6.000	G2517L	G2534R	–	–	100	–	10	–	1000	–	100	–
	0-700	0-10.000	G2535L	G2537R	G4088L	G4039L	100	100	10	10	2000	1000	200	100
0-1000	0-15.000	G2536L	G2538R	G4089L	G4040L	100	100	20	20	3000	3000	200	200	
H-Series	0-700	0-10.000	–	–	H4049L	H4071L	–	100	–	10	–	1000	–	100

T-Series, Test System Gauges

▼ T-6003L



- Dual scale reading calibrated in bar and psi
- All gauges have spring-loaded backs with rubber blow-out plugs to protect case assembly in case of over-pressurization
- Integral maximum indicator pointer standard included
- 2800 and 3500 bar models include flange mounting
- ½" NPTF versions are made of high strength alloy steel
- 0.25" cone models are made of 316 stainless steel, with 403 stainless steel on 2800 and 3500 bar models.

▼ An Enerpac P-2282 hand pump equipped with a T-6011L test system gauge is used for proof pressure testing of hydraulic valves.



T Series

Pressure Range:
0 - 3500 bar

Face Diameter:
162 - 192 mm

Accuracy, % of full scale:
± 0,5 - 1,5%



Cone Mount Gauge Adaptor

Contains fittings to connect ¼" cone fitting gauge to ⅜" cone system. Kit includes 43-301 tee, 43-704 gauge adaptor and 45-116 tubing. Order model number: **83-011**.

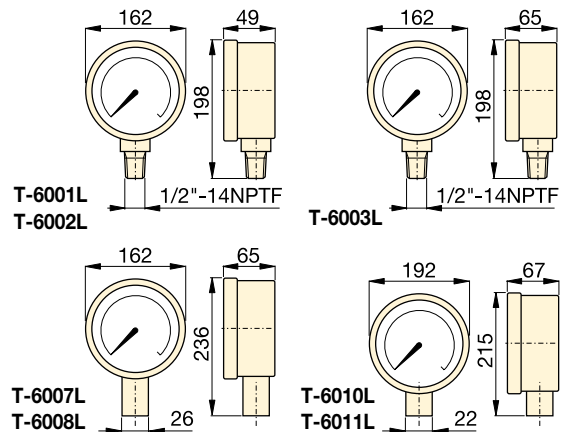
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Cone Mount Gauge Connector

For connecting gauges with 0.25" cone fitting directly to model number **11-100** or **11-400** pump (page 72). May be used with other

0.25" cone systems. Order model number: **43-704**



Pressure Range (bar)	Pressure Range (psi)	Model Number		Number Intervals (bar)	Graduation Intervals (bar)	Number Intervals (psi)	Graduation Intervals (psi)
		Alloy Steel ½" NPTF	Stainless Steel 0,25 cone				
0-70 ¹⁾	0-1000	T-6001L	–	10	1	100	10
0-350 ¹⁾	0-5000	T-6002L	–	50	5	500	50
0-700 ¹⁾	0-10.000	T-6003L	T-6007L	100	10	1.000	100
0-1400 ¹⁾	0-20.000	–	T-6008L	200	20	1.000	100
0-2800 ²⁾	0-40.000	–	T-6010L	500	20	5.000	200
0-3500 ²⁾	0-50.000	–	T-6011L	500	50	5.000	200

¹⁾ Accuracy ± 0,5%

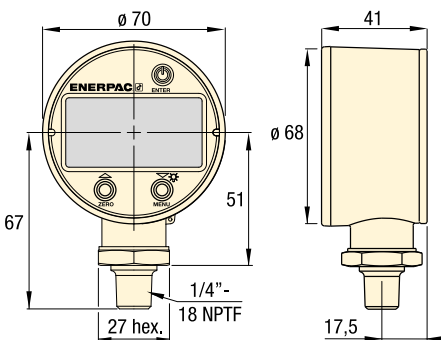
²⁾ Accuracy ± 1,5%

Digital Hydraulic Pressure Gauge

▼ DGR-2



- Rated for system pressure up to 1380 bar
- Displays in bar, psi, MPa and kg/cm²
- Zero reset - ensures that gauge reads actual pressure
- IP65 protection, UL listed, CE and RoHS compliant
- Batteries included, condition indicator on read-out
- Shut-off selectable – menu driven
- Back-lit readout allows easy reading in less than ideal lighting
- Protective cover included.



High Pressure Rating (bar)		High Pressure Rating (MPa)		Model Number	High Pressure Rating (psi)		High Pressure Rating (kg/cm ²)	
Range	Resolution	Range	Resolution		Range	Resolution	Range	Resolution
0-1380	0,1	0-140	0,01	DGR-2	0-20.000	1	0-1400	0,1

Weight: 0,23 kg.

DGR Series

Pressure Range:

0 - 1380 bar

Voltage:

3 Volt (battery)

Accuracy, % of full scale:

± 0,25%



Gauge Adaptor

For easy gauge installation into almost any system, Enerpac offers a complete line of gauge adaptors. Maximum operating pressure 700 bar.

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▼ Greater accuracy and easier to read: enhance your ability to monitor and control hydraulic system pressure up to 1380 bar.



▼ Shown: GA45GC



- 45° angled gauge improves visibility
- Slim and narrow design
- Easy to fit in a broad range of systems
- Maximize controlled load movement
- Glycerin dampened gauge with dual scale
- Enerpac High Flow female coupler.

GA45GC Series

Connection 1:
3/8" NPTF male

Connection 2:
CR-400 coupler

Maximum Operating Pressure:
700 bar

45° Angled gauge adaptor improves safe working conditions



CAUTION!
Always use a gauge.

Do not override factory setting of relief valves. Always use a gauge to check system pressure. A gauge is your 'window' to the system. It lets you see what's going on. See our Safety Instructions.

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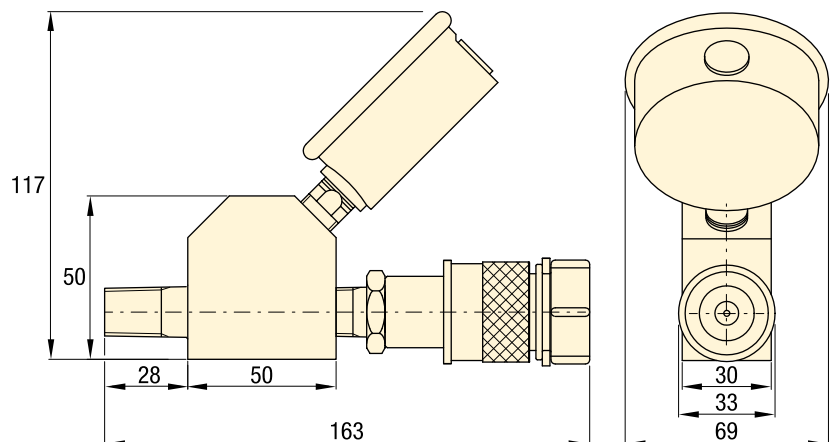


Power Box

Tool box with hand pump, GA45GC gauge adaptor assembly, hose and RC, RSM, RCS, WR5 or LW16-cylinder.

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▼ The Gauge Adaptor Assembly is the window to your system; allows easy reading of the pressure for safe operation.



Model Number	Gauge Port (1/4" NPTF)	Male End (NPTF)	Female End (3/8" NPTF)	Gauge Range	
				(bar)	(psi)
GA45GC	G2535L	3/8" -18	CR-400	0 - 700	0 - 10.000

Gauge Accessories

▼ Shown from left to right: GA-3, V-91, GA-1, GA-2, GA-4, NV-251, GA-918







GA, NV, V Series

Maximum Operating Pressure:
700 bar

▼ A gauge is easily installed into your hydraulic system using a gauge adaptor.

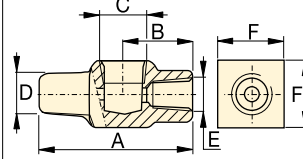


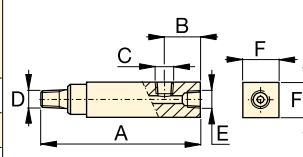
Gauge Adaptors (GA-Series)

- For easy mounting of a pressure gauge onto your system
- Male end screws into pump or cylinder port, female end accepts hose or coupler, 3rd port is for gauge connection
- GA-918 provides for swivel connection.


Model Number	Gauge Port (NPTF)	Male End (NPTF)	Female End (NPTF)	Dimensions (mm)					
				A	B	C	D	E	F
GA-1	1/2"	3/8"	3/8"	71	31	1/2" NPTF	3/8" NPTF	3/8" NPTF	32
GA-2	1/2"	3/8"		155	35	1/2" NPTF	3/8" NPTF	3/8" NPTF	32
GA-3	1/4"	3/8"		133	35	1/4" NPTF	3/8" NPTF	3/8" NPTF	32
GA-4	1/2"	1/4"		111	35	1/2" NPTF	1/4" NPTF	3/8" NPTF	32



GA-1



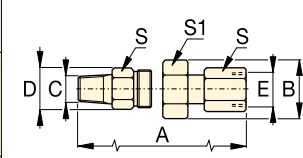
GA-2, GA-3, GA-4





Swivel Adaptor (GA-918)

- Simplifies gauge installation and reading.

Model Number	Dimensions (mm)						
	A	B	C	D	E	S	S1
GA-918	117	43	1/2" NPTF	28,5	1/2" NPTF	29	38



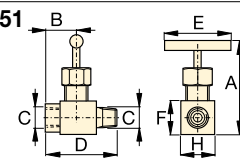



Needle Valves (V- and NV-Series)

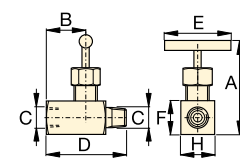
- Both NV-251 and V-91 provide positive shut-off
- 303 stainless steel stem, 16 threads/in (NV-251).

Model Number	Orifice (mm)	Thread Size	Dimensions (mm)						
			A	B	C	D	E	F	H
NV-251	4,3	1/4" NPTF	57	29	1/4" NPTF	57	46	19	19
V-91	4,8	1/2" NPTF	89	32	1/2" NPTF	64	32	37	37

NV-251



V-91



▼ From left to right: V-152, V-66, V-82, V-161, V-42, V-17



Your Hydraulic Control Solution



Valve Applications

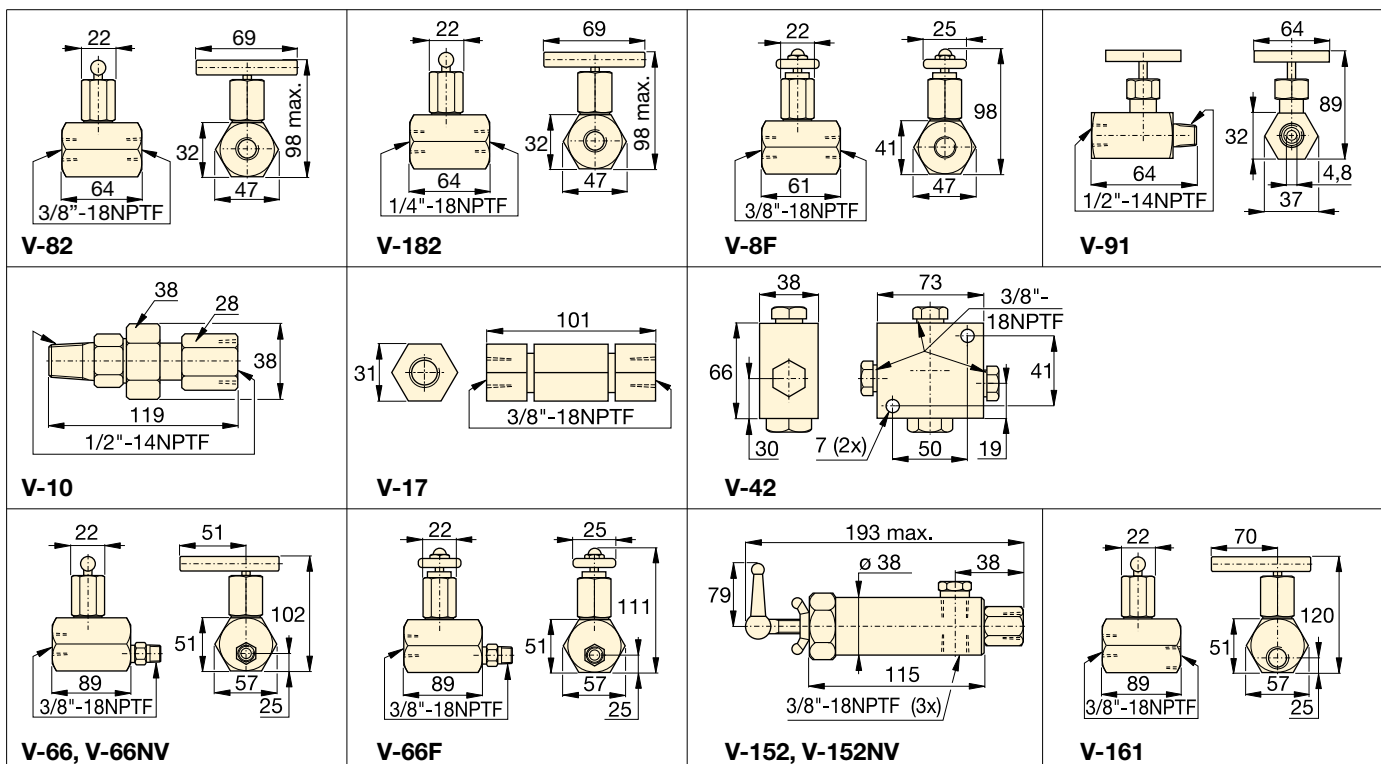
To see these valves used in typical hydraulic circuits, please see our 'Yellow Pages'.

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▼ The V-152 pressure relief valve limits the pressure or force developed in the hydraulic system.



- All valves are rated for 700 bar operating pressure
- All valves feature NPTF porting to insure against leakage at rated pressure
- All valves are painted, coated, or plated for corrosion resistance
- Viton® seals (in V-66NV and V-152NV) for high temperature applications, nickel-plated for maximum corrosion resistance.



Valve dimensions in mm

Pressure and Flow Control Valves



Control Manifolds

For two or four port manifolds with integral flow control valves, see the manifold page of the System Components section.

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Fittings

For additional fittings see the fitting page of the System Components section in this catalogue.

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V Series



Maximum Operating Pressure:

700 bar

Valve Type and Model Number		Description		Hydraulic Symbol
Needle Valve V-82 V-182 V-8F		V-82: To control cylinder speed. Can also be used as shut-off valve for temporary load holding. 3/8" NPTF ports, nickle plated. V-182: Same as V-82, but with 1/4" NPTF female ports, nickle plated. Also	suitable for gauge snubbing (also V-82). V-8F: Like V-82, but with very fine metering for precise flow control 0,16-14,7 l/min at 275 bar. Not recommended as shut-off valve.	
Snubber Valve V-91		V-91: Infinitely adjustable for metering oil out of a gauge to prevent snapping of gauge pointer when load or pressure is suddenly released.	Also suitable as shut-off valve to protect the gauge during high cycling applications. 1/2" NPTF male and female threads for use with GA-1, GA-2 or GA-4 gauge adaptors.	
Auto Damper® Valve V-10		V-10: To be used when gauge pressure must be monitored during high cycle applications. Creates a flow resistance when load is released suddenly. No adjustments are necessary.	1/2" NPTF male and female threads for use with GA-1, GA-2 or GA-4 gauge adaptors.	
Check Valve V-17		V-17: Ruggedly built to resist shock and operate with low pressure drop. Closes smoothly without pounding. 3/8" NPTF female port.		
Pilot Operated Check Valve V-42		V-42: Can be mounted at the cylinder to hold the load in case of system pressure loss. Normally used with double-acting cylinders where pilot port receives pressure from a Tee-fitting in the cylinder retract line.	3/8" NPTF female ports. Pilot presure ratio 14% (6,5:1).	
Manually Operated Check Valve V-66, V-66NV * V-66F		V-66, V-66NV: For load holding applications with single and double acting cylinders. Valves allow oil to flow back to tank when cylinder retracts. V-66NV with Viton seals, nickel-plated.	V-66F: Similar to V-66, but with very fine metering capability for precise flow control. V-66F is not designed for load holding.	
Pressure Relief Valve V-152 V-152NV *		V-152: Limits pressure developed by the pump in hydraulic circuit, thus limiting the force imposed on other components. Valve opens whenever preset pressure is reached.	To increase pressure setting, turn handle clockwise. Includes: • 0,9 m return line hose kit, • ± 3% repeatability, • 55-700 bar adjustment range.	
Sequence Valve V-161		V-161: To control oil flow to a secondary circuit. Flow is blocked until system pressure rises to the V-161 setting. When this pressure level is reached, the V-161 opens to allow flow to the secondary circuit.	A pressure differential is always maintained between the primary and secondary circuit. Mininum operating pressure: 140 bar.	

* See page 54 for more information about products for use in high temperature and extreme environment applications.