

# System

## System components

From the simplest to the most complex hydraulic system, Enerpac's system components help you complete your design. Gauges, fittings, couplers and hoses are simple but necessary items for any hydraulic system, and Enerpac can provide the full range. And more specialized components such as accumulators and automatic coupler systems ensure that whatever your need, Enerpac can help.












## Technical support

Refer to the "Yellow Pages" of this catalog for:

- Safety instructions
- Basic hydraulic information
- Advanced hydraulic technology
- FMS (Flexible Machining Systems) technology
- Conversion charts and hydraulic symbols

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# components

	▼ series	▼ page	
Auto-coupler systems	MCA, WCA MPA	100 - 101	
Rotary couplers	CR CRV	102 - 103	
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Digital pressure gauge	DG	106	
Pressure gauges	G	106	
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Manifolds, Couplers, Hoses	A, AH/R C, H	108	
High pressure filters, Hydraulic oil	FL, HF	109	
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Shown: MCA-62, MPA-62



▶ The automatic coupler system allows connection and disconnection of palletized hydraulic circuits. This system eliminates the direct intervention of an operator, allowing hands free, safe functioning of the process. Typical systems include one base station located at the load/unload station operating one or more pallet receivers.

■ An auto-coupler is being connected to the receiver, mounted on the side of a palletized fixture.

## For automated coupling of hydraulic circuits on palletized systems

- Sensing feedback of coupler position allows for fully automated applications
- Horizontal or vertical mounting for flexible installation on machine tools
- Adjustment stroke allows clearance for pallet indexing
- Coupler elements supplied with air blow-off nozzles to prevent damage from contamination

Swing cylinders  
Work supports

Linear cylinders

Power sources

Valves

System components

## Product selection

Station position	Model number <sup>1)</sup>	Adjustable stroke	Oil capacity		Maximum oil flow <sup>2)</sup>
			cm <sup>3</sup>		
		mm	advance	retract	l/min
<b>▼ 2 port auto coupler</b>					
Base	MCA-62	5 - 15	10,8	10,8	1,0
Base	WCA-82	104 - 113	10,8	10,8	1,0
Pallet	MPA-62	-	-	-	-

<sup>1)</sup> For additional pallet clearance, WCA-82 long stroke model is available.

<sup>2)</sup> Maximum oil flow of coupler elements is 17 l/min.




Connection:	2 ports
Stroke:	5 - 113 mm
Pressure:	40 - 350 bar


- E** Acopladores automáticos
- F** Coupleurs automatiques
- D** Automatische Kupplungen

### Product specifications

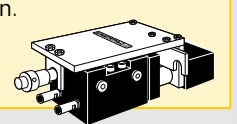
Model number	Required radial alignment accuracy mm	Operating pressure bar	Hydraulic nozzle model nr. (included)	Recommended alignment tool
<b>▼ 2 port auto coupler</b>				
MCA-62	± 0,5	40 - 350	CDF-6	AT-1
WCA-82	± 0,5	40 - 350	CDF-6	AT-2
MPA-62	± 0,5	40 - 350	CDM-6	AT-1

### Options

Hoses  [108](#) ◀

High pressure filters  [109](#) ▶

**AT series alignment tool**  
Use the AT series alignment tool to adjust the position of the pallet station in relation to the base station.



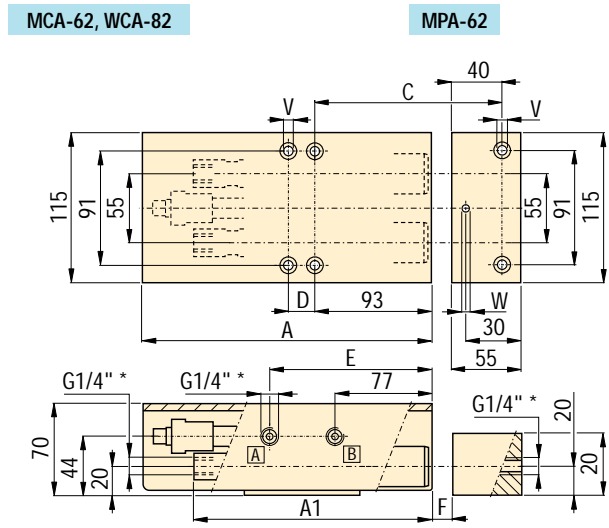
**Important**  
Use high pressure filters on pallet station outlet ports, to avoid contamination of pallet mounted valves and cylinders.

To guarantee leakage free connections, accurate positioning of the pallet and base stations is crucial.  
Carefully read the instruction manual included with the product.

Do not couple or uncouple with the hydraulic nozzles under pressure.  
This could damage the internal coupler seals.

Do not exceed maximum flow and pressure.

System components  
Yellow pages



\* Note: For WCA-82 oil ports are SAE #4 7/16-20 UNF

### Product dimensions in mm [⊕]

Model number	A	A1	C	D	E	F max.	V <sup>1)</sup> for mounting bolts DIN912 - 12.9	W <sup>2)</sup>	kg
<b>▼ 2 port auto couplers</b>									
MCA-62	225	190	137,7	21	129,3	10,0-10,5	M8 x 90	-	7,6
WCA-82	398	356	237,7	100	208,3	94	M8 x 90	-	13,1
MPA-62	-	-	-	-	-	-	M8 x 90	5,8	1,8

<sup>1)</sup> Mounting bolts are not included. <sup>2)</sup> Drill dowel pin holes after installing MPA..

# Rotary couplers *Application & selection*

Shown: CRV-222, CR-112

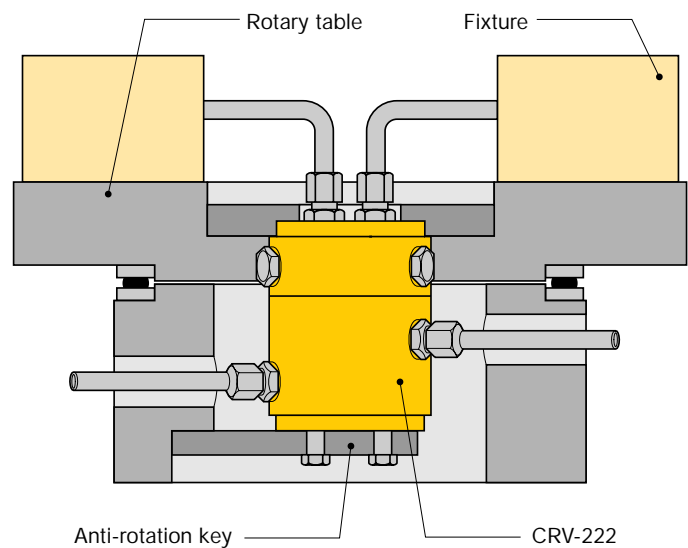


▶ Rotary couplers are specially designed unions to transfer pressurized fluid from a stationary supply line to a rotating device. Used for workholding or clamping device such as fixtures installed on rotating index tables.

## Permanent hydraulic connection on indexing and rotating work stations

- High rotation per minute
- Low starting torque
- Internal oil bearings for increased lifetime
- Single, 2 or 4 passage coupler type

## Rotary coupler operation



■ In this application 8 CRV-222 rotary couplers are installed to power the individual presses of an 8 station rotary press table.



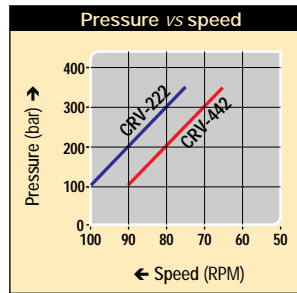
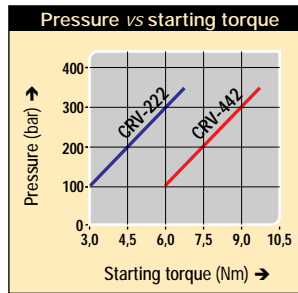
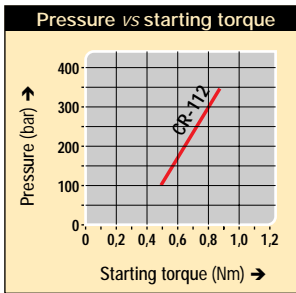
## Product selection

Number of radial passages	Model number <sup>1)</sup>	Operating pressure range	Maximum speed		Starting torque	
			RPM		Nm	
			bar	100 bar	350 bar	100 bar
1	CR-112	100-350	30	30	0,5	0,9
2	CRV-222	100-350	100	75	3,0	7,0
4	CRV-442	100-350	90	65	6,0	10,0

<sup>1)</sup> Before selecting, note the starting torque and speed diagrams on the next page. Maximum oilflow 9 l/min.



**A** Starting torque and speed diagrams



Max. operating speed = 30 RPM.  
Max. oilflow 9 l/min.

Oil loss CRV-222 = 20 cm<sup>3</sup>/h, CRV-442 = 40 cm<sup>3</sup>/h

Passages: 1-4 lines

Speed: 30-100 RPM max

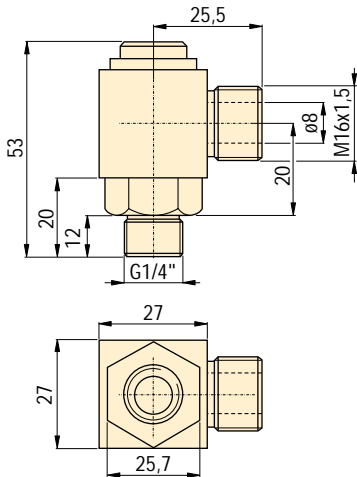
Pressure: 100 - 350 bar

- E** Acoplamiento giratorios
- F** Joints tournants
- D** Drehdurchführungen

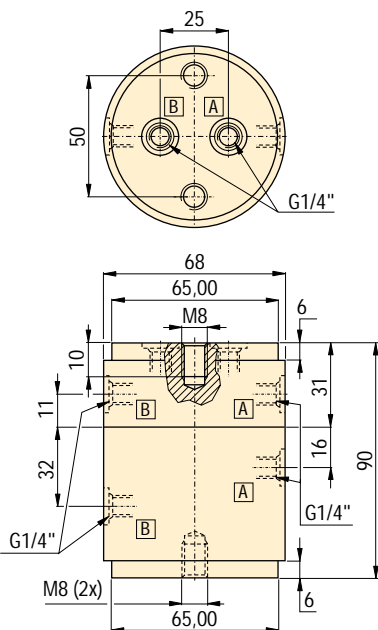


**A** Product dimensions in mm [⊲⊕]

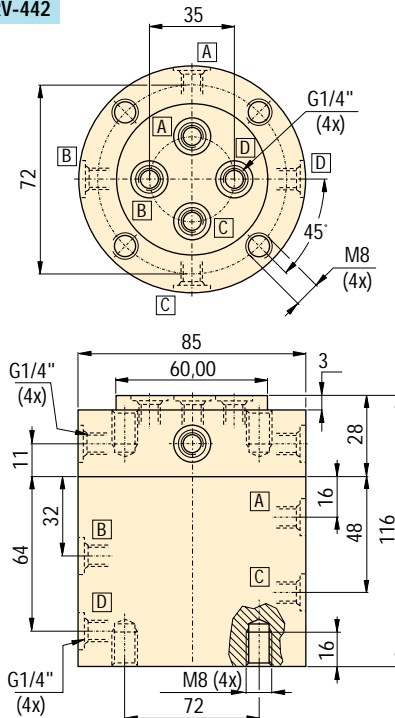
CR-112



CRV-222





CRV-442




**B** Options

Fittings  [110](#)

Couplers  [108](#)

Hoses  [108](#)

Gauges  [106](#)

**!** Important

Before selecting, note the pressure versus starting torque diagrams.

Rotary couplers must be mounted in the center of rotation of the installation.

Anti-rotation keys should be utilized.

# Accumulators *Application & selection*

Shown: ACM-1, ACBS-202, ACL-202



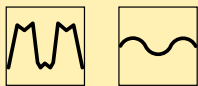
▶ Enerpac accumulators supply auxiliary pressure to dampen shock loads or to compensate pressure drop in applications where system pressure needs to be maintained.

Accumulator packages will help maintain system pressure to your fixture when separated from the hydraulic source. The gauge will display system pressure after the circuit is disconnected.

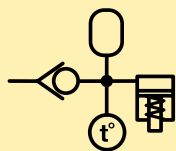
## Accumulator applications:

- Energy storage
- Circuit pulsation dampening
- Thermal expansion compensation

### Pulse dampening



### Thermal expansion



■ ACBS-202 Accumulator package used to maintain pressure on a machine tool fixture.



## Accumulators

...maintain circuit pressure

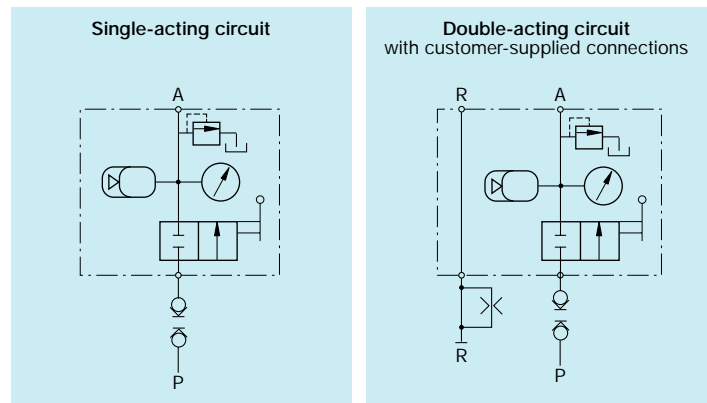
- Ideal for high frequency and rapid discharge applications
- ACL series are pre-charged to 100 bar
- Corrosion resistant bodies on ACL series
- Spring actuated accumulator for ACM-1
- High energy storage capacity in a compact package

## Accumulator coupler packages

...compact design for easy use of accumulators

- Single design accommodates both single-acting or double-acting circuit
- Relief valve fitted and ball check shut-off
- Glycerin-filled gauge included
- Supplied standard with one male coupler (AH-652)
- Optional manifold mounting. O-ring seals located on bottom of block only for single-acting circuit

## **i** Accumulator coupler package circuits



## **i** Product selection

Operating pressure	Model number	Max. rated oil volume	Gas volume	Pre-charged nitrogen pressure	Usable oil capacity
bar		cm <sup>3</sup>	cm <sup>3</sup>	bar	cm <sup>3</sup> at 350 bar
▼ Pre-charged accumulators					
0-120	ACM-1	1,6	-	-	-
100-350	ACL-22	14,7	20,0	100	8,7
100-350	ACL-202	126,2	169,9	100	73,9
100-350	ACL-502	337,6	450,0	100	196,6
▼ Pre-charged accumulator coupler packages					
100-350	ACBS-22	16,4	20,0	100	8,7
100-350	ACBS-202	163,9	169,9	100	73,9

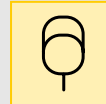


Pressure: 0 - 350 bar

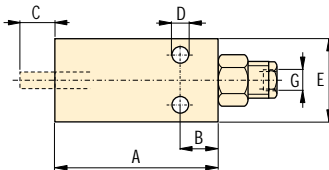
Oil volume: 1,6 - 337,6 cm<sup>3</sup>

Gas volume: 20 - 450 cm<sup>3</sup>

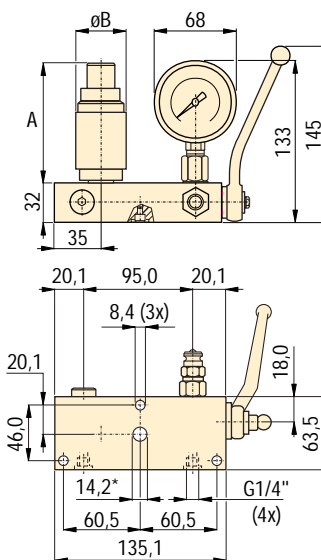
- (E)** Acumuladores
- (F)** Accumulateurs
- (D)** Druckspeicher



ACM-1

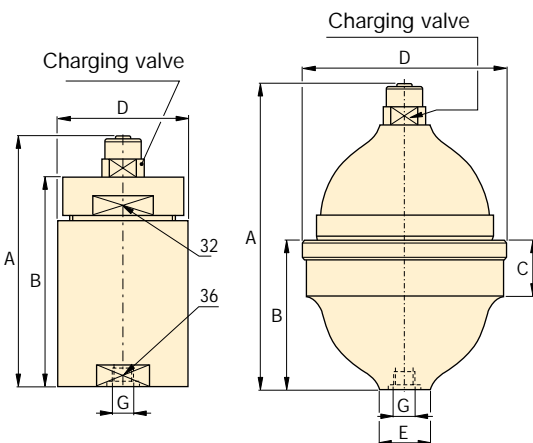


ACBS



ACL-22

ACL-202, 502



<sup>1)</sup> Manifold hole should not exceed  $\varnothing 7,6$  mm when port is utilized.

**Product dimensions in mm** [ ]

Model number	A	B	C	D	E	G	Recommended charging tool	kg
<b>▼ Pre-charged Accumulators</b>								
ACM-1	133	19	13	6,7	45	.125-27NPT	-	1,0
ACL-22	99	66	-	42,0	-	G1/4"	WAT-2	0,6
ACL-202	137	69	29	84,5	29	G1/4"	WAT-2	1,2
ACL-502	171	89	35	114,0	40	G3/8"	WAT-2	2,8
<b>▼ Pre-charged accumulator coupler packages</b>								
ACBS-22	68	42	-	-	-	G1/4"	WAT-2	4,6
ACBS-202	106	85	-	-	-	G1/4"	WAT-2	5,4

**Options**

**Couplers** [108](#)

**High pressure filters** [109](#)

**Hydraulic oil** [109](#)

**Fittings** [110](#)

**Important**

Enerpac high pressure in-line filters are required for use with these control units to prevent damage that can be caused by contaminants that have penetrated your hydraulic fluid system.

Order an additional male coupler (AH-652) for use in double-acting hydraulic circuits.

# Pressure gauges and accessories *Application & selection*

Shown: V-91, GA-918, G-2535L, DGR-1



▶ Enerpac digital pressure gauges offer greater accuracy and are easier to read than conventional dial gauges, greatly enhancing your ability to monitor and control hydraulic system pressure.

G series, glycerine filled pressure gauges allow the operator a visual representation of what is happening in the hydraulic circuit.

Enerpac gauges provide a safe and inexpensive monitoring system for your hydraulic circuit. These gauges deliver years of accurate service while withstanding vibration, corrosive media and atmospheric conditions.

■ Enerpac gauges used to monitor system pressure and maintain process accuracy.



Swing cylinders  
Work supports

Linear cylinders

Power sources

Valves

System components

## Digital gauge

- ± 0,2 % accuracy of full scale
- Rated for system pressures up to 1000 bar
- Displays in bar, hPa, mbar, kPa, kg/cm<sup>2</sup>, psi.
- Zero set – ensures that gauge reads actual system pressure
- Battery low indicator; 1400 hours continuous operation
- Automatic shut-off after 15 minutes

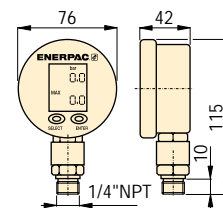
## Highly reliable and accurate pressure sensing

- ± 1,5 % accuracy of full scale
- All pressure sensing parts sealed and dampened by glycerine for long life
- Includes safety blow-out disk and pressure equalizing membrane to prevent overpressurization
- Copper alloy, coiled safety Bourdon tube for 70 bar and higher
- Dual psi and bar scale readings, 63 mm gauge face

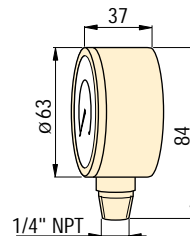
## Gauge accessories for easy installation

- Needle valves providing positive shut-off
- 303 stainless steel stem (NV-251)
- Snubber valves to control pressure surges between gauge and hydraulic system
- Gauge adaptors – male end screws into pump or cylinder, female port accepts hose or coupler, the third port is for gauge connection

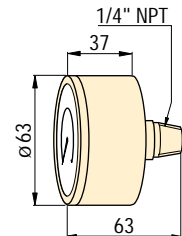
### DGR-1 Digital gauge



### Lower mount models



### Rear mount models



## Product selection

Accuracy	Pressure range		Model number	PSI graduation		Bar graduation	
	psi	bar		Major	Minor	Major	Minor
% of full scale				psi	psi	bar	bar
0,2	0-15000	0-1000	DGR-1	-	-	-	-
▼ Digital pressure gauge							
1,5	0-600	0-40	G-2513L	100	10	10	1
1,5	0-1000	0-70	G-2514L	100	20	10	1
1,5	0-2000	0-140	G-2515L	500	50	10	2
1,5	0-3000	0-200	G-2516L	500	50	50	5
1,5	0-6000	0-400	G-2517L	1000	100	100	10
1,5	0-10000	0-700	G-2535L	2000	200	100	10
▼ Pressure gauge – Lower mount							
1,5	0-1000	0-70	G-2531R	100	20	10	1
1,5	0-6000	0-400	G-2534R	1000	100	100	10
1,5	0-10000	0-700	G-2537R	2000	200	100	10
▼ Pressure gauge – Rear mount							

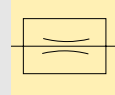


Pressure: 0-1000 bar

Accuracy: 0,2-1,5% /full scale

Gauge face:  $\varnothing$  63-76 mm

- E** Manómetros
- F** Manomètres
- D** Manometer



**Options**

Hoses and couplers

108



Accessory valves

94



Fittings

110



700 bar Auto Damper® Valve V-10

94



**Important**

Do not exceed maximum pressure.

Gauge snubbers or needle valves are recommended for high cycle applications.

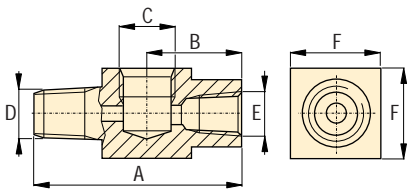
Do not keep gauges under permanent pressure. The use of shut-off valves is recommended.

For basic system set-up information, refer to our "Yellow Pages" section.

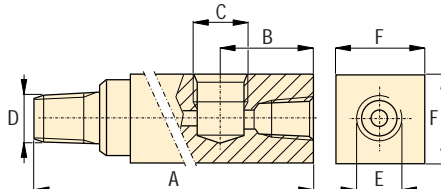
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System components  
Yellow pages

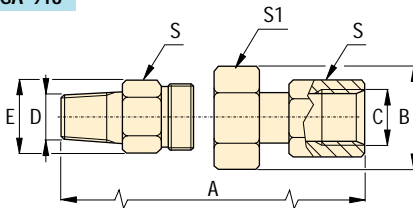
**GA-1**



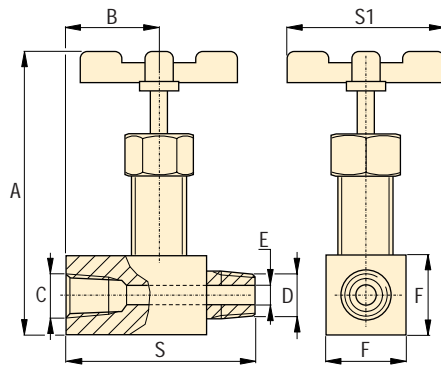
**GA-2, -3, -4**



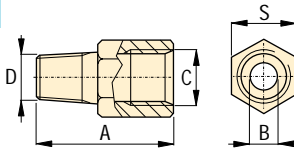
**GA-918**



**NV-251, V-91**



**GS-2, -3**



**Product dimensions in mm**

Gauge port NPT	Max. pressure bar	Model number	Dimensions							
			A	B	C	D	E	F	S	S1
<b>▼ Gauge adaptors</b>										
1/2"	700	GA-1	71	31	1/2" NPT	3/8" NPT	3/8" NPT	32	-	-
1/2"	700	GA-2	155	35	1/2" NPT	3/8" NPT	3/8" NPT	32	-	-
1/4"	700	GA-3	133	35	1/4" NPT	3/8" NPT	3/8" NPT	32	-	-
1/2"	700	GA-4	111	35	1/2" NPT	1/4" NPT	3/8" NPT	32	-	-
<b>▼ Swivel gauge adaptor</b>										
1/2"	700	GA-918	57	44	1/2" NPT	1/2" NPT	33	-	29	38
<b>▼ Gauge shut-off valves</b>										
1/4"	700	NV-251	57	29	1/4" NPT	1/4" NPT	4,3	19	57	46
1/2"	700	V-91	89	32	1/2" NPT	1/2" NPT	4,8	37	64	64
<b>▼ Gauge snubber valves</b>										
1/4"	350	GS-2	41	0,46	1/4" NPT	SAE #4	-	-	19	-
1/4"	350	GS-3	41	0,46	1/4" NPT	G1/4"	-	-	19	-

Shown: H-7202, A-66, HF-95Y, CR-400, AH-650, A-64



**▶ Use genuine Enerpac manifolds, couplers and hoses to connect your workholding cylinders or fixtures to the hydraulic power source.**

### A series, Manifolds

For multiple hydraulic line connections at one central location directing oil to or from a pressure source.

### C series, High-Flow Couplers

High pressure coupler recommended for use on all Enerpac pumps and cylinders

### AH, AR series, Couplers

Quick disconnect low leakage couplers for easy connection of hydraulic circuits.

### H-700 series, Hoses

High pressure hydraulic hoses, for demanding applications, featuring a 4:1 design factor.

## Options

### Fittings

110 ▶



### Gauges and accessories

106 ▶



### Manifolds

- Easy to connect
- Mounting holes on all models

### Couplers

- Spee-D-Coupler® design allows cylinder to be connected and disconnected in seconds
- For more safety: couplers cannot be connected or disconnected while under hydraulic pressure

### Thermo-plastic safety hoses

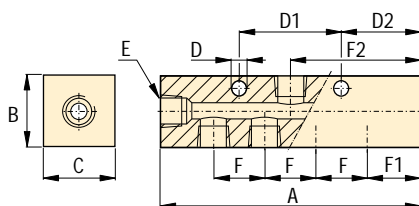
- Maximum working pressure of 700 bar
- Four layer design, including two high strength wire braids
- Outside jacket is polyurethane, to provide maximum abrasion resistance

## ⚠ Important

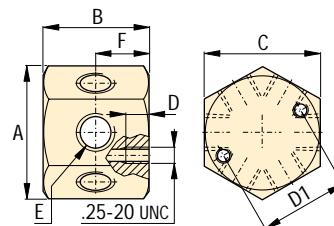
Do not exceed the maximum pressure.

Inspect hoses and hydraulic lines frequently and replace as required.

A-64, -65



A-66



## Manifolds dimensions in mm [⌀]

Number of ports	Model number	A	B	C	D	D1	D2	E	F	F1	F2	kg
7	A-64 <sup>1)</sup>	178	32	32	6,3	76	32	.375-18 NPT	38	32	89	1,5
7	A-65 <sup>1)</sup>	368	32	32	6,3	203	32	.375-18 NPT	102	32	184	2,7
6	A-66 <sup>1)</sup>	58	42	51	13,2	38	-	.375-18 NPT	-	-	-	0,9

<sup>1)</sup> Note: Maximum operating pressure of A-64, A-65 and A-66: 700 bar

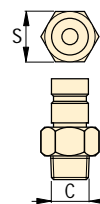
## Thermoplastic Safety Hoses

Hose length m	Hose End one	Hose End two	Internal diameter mm	Model number	Maximum pressure bar	kg
0,6	3/8" NPT	3/8" NPT	6,4	H-7202	700	0,5
0,9	3/8" NPT	3/8" NPT	6,4	H-7203	700	0,7
1,8	3/8" NPT	3/8" NPT	6,4	H-7206	700	0,9
3,0	3/8" NPT	3/8" NPT	6,4	H-7210	700	1,4

## Couplers

Maximum pressure bar	Maximum oil flow l/min	Modelnr. Coupler complete	Modelnr. Female half	Modelnr. Male half	Thread size C	S mm
700	40	C-604	CR-400	CH-604	3/8" NPT	22
700	40	A-604	AR-400	AH-604	3/8" NPT	19
350	17	-	AR-650 <sup>1)</sup>	AH-650	1/4" NPT	17,5
350	17	-	AR-650 <sup>1)</sup>	AH-652	G1/4"	17,5
350	17	-	AR-650 <sup>1)</sup>	AH-654	SAE #4	17,5

<sup>1)</sup> Note: Thread size AR-650 is 1/4" NPT, dimension S is 20,6 mm. Use FZ-1055 Fitting to connect to 3/8" NPT Hose ends.





## High pressure filters

- Keep your hydraulic system clean
- Pleated stainless steel wire mesh screen construction provides large filter area in a compact size
- Rated for full system pressure up to 350 bar
- Bi-directional design allows filtration of oil in either flow direction
- Two piece body construction for easy replacement of filter elements
- High flow rates are obtainable with a minimum pressure drop
- Threaded port connections on each end simplify installation

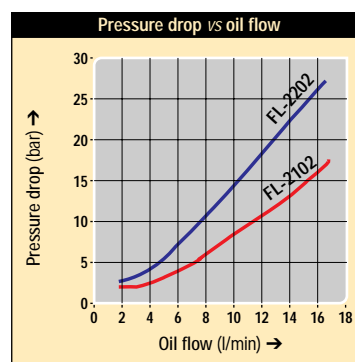
## Hydraulic oil

- Ensures effective lubricity
- Protects essential parts

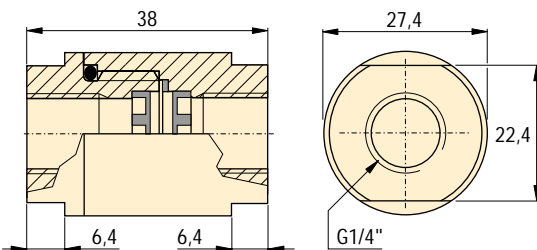
## Filtration

**20 micron filter** provides the longest service life before element replacement.

**10 micron filter** recommended for more sensitive hydraulic components.



## FL series



## High pressure filters (350 bar)

Model number	Filtration		Model number Filter element set	
	Nominal	Absolute		
FL-2102	10	25	FL-2101K	0,2
FL-2202	20	40	FL-2201K	0,2

## Hydraulic oil

Contents	Model number	Specifications genuine Enerpac hydraulic oil			
litres					
1,0	HF-95X	0 °C	< 1500 cSt	Flash, C.O.C.	210 °C
5,0	HF-95Y	37,8 °C	32 - 34 cSt	Pour point	-32 °C
60,0	HF-95Z	100 °C	5,0 - 6,1 cSt	Aniline point	99/104 °C

Note: Viscosity index: 100 min

- E** Mangueras, Filtros  
Acoplamiento, Aceite
- F** Flexibles, Filtres  
Raccords, Huile
- D** Schläuche, Filter  
Kupplungen, Öl

## High pressure filters

Compact inline high pressure filters prevent chips and debris that have entered the hydraulic fluid system from damaging hydraulic system components.

## Hydraulic oil

Use only genuine Enerpac hydraulic oil to guarantee optimal performance and long life of your hydraulic equipment.

## Options

### Fittings

110 ▶



## Important

**Do not exceed the maximum pressure.**

■ Hydraulic power is distributed by manifolds and transported by hoses and tubing.



Shown: FZ-2023, FZ-2054, FZ-2052



▶ Fittings are used to connect all cylinders, components, power sources, tubes, gauges and hoses in a hydraulic system. Enerpac fittings provide flexible, safe and leak-free connections.

■ Multiple hydraulic line connections are easily installed with Enerpac fittings and manifolds.

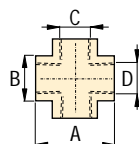
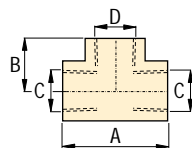
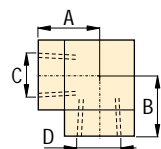
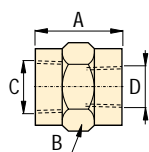
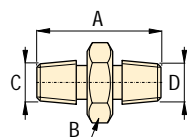
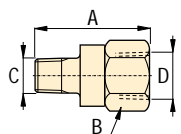


## Proper connection for hydraulic components

- Male and female BSPP, UNF, NPT threaded fittings in common sizes allow easy connection of all components
- BFZ and FZ-1000 models are 700 bar maximum pressure
- FZ-2000 models are 350 bar maximum pressure

## Product selection

From	To	Max. pressure	Model number	Dimensions in millimetres			
				A	B	C	D
		bar					
<b>▼ Adaptors</b>							
1/4" NPT	1/8" NPT	700	FZ-1642	30	19	1/8" NPT	1/4" NPT
G1/4"	1/4" NPT	700	BFZ-16411	35	19	1/4" NPT	G1/4"
G1/4"	1/8" NPT	700	BFZ-16421	31	19	1/8" NPT	G1/4"
G3/8"	1/4" NPT	700	BFZ-16323	43	24	1/4" NPT	G3/8"
G3/8"	3/8" NPT	700	BFZ-16324	43	24	3/8" NPT	G3/8"
3/8" NPT	1/4" NPT	700	FZ-1055	45	24	1/4" NPT	3/8" NPT
SAE #4	1/4" NPT	350	FZ-2007	29	19	7/16" UN	1/4" NPT
SAE #4	1/8" NPT	350	FZ-2008	25	14	7/16" UN	1/8" NPT
SAE #4	SAE #2	350	FZ-2022	29	17	5/16" UN	7/16" UN
1/2" NPT	1/4" NPT	700	FZ-1633	43	29	1/4" NPT	1/2" NPT
1/2" NPT	3/8" NPT	700	FZ-1634	43	29	3/8" NPT	1/2" NPT
<b>▼ Nipples</b>							
1/4" NPT	1/4" NPT	700	FZ-1608	38	16	1/4" NPT	1/4" NPT
3/8" NPT	G1/4"	700	BFZ-305	36	19	3/8" NPT	G1/4"
3/8" NPT	3/8" NPT	700	FZ-1617	38	19	3/8" NPT	3/8" NPT
3/8" NPT	3/8" NPT	700	FZ-1619	51	19	3/8" NPT	3/8" NPT
<b>▼ Connectors</b>							
1/4" NPT	1/4" NPT	700	FZ-1605	28	19	1/4" NPT	1/4" NPT
3/8" NPT	1/4" NPT	700	FZ-1615	29	25	3/8" NPT	1/4" NPT
3/8" NPT	3/8" NPT	700	FZ-1614	37	24	3/8" NPT	3/8" NPT
1/2" NPT	3/8" NPT	700	FZ-1625	48	29	1/2" NPT	3/8" NPT
<b>▼ Elbows</b>							
1/4" NPT	1/4" NPT	700	FZ-1638	36	24	1/4" NPT	1/4" NPT
3/8" NPT	3/8" NPT	700	FZ-1610	33	20	3/8" NPT	3/8" NPT
<b>▼ Tee</b>							
1/4" NPT	1/4" NPT	700	FZ-1637	45	24	1/4" NPT	1/4" NPT
3/8" NPT	3/8" NPT	700	FZ-1612	45	25	3/8" NPT	3/8" NPT
<b>▼ Cross</b>							
3/8" NPT	3/8" NPT	700	FZ-1613	45	25	3/8" NPT	3/8" NPT





Pressure: 0-700 bar

Threads: NPT, UNF, BSPP

For tubing: 0,25 inch / 8 mm

- E** Acoplamiento
- F** Raccords
- D** Verschraubungen

**Options**

Gauges and accessories



106 ▶

Manifolds, couplers, hoses, oil



108 ▶

**Important**

Do not exceed maximum pressure.

Use fittings and tubing in high cycle applications and areas having excessive heat or weld splatter.

To seal NPT threads use anaerobic thread sealers or Teflon paste.

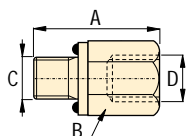
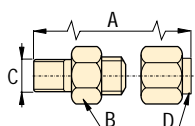
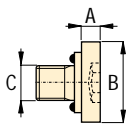
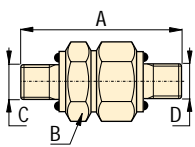
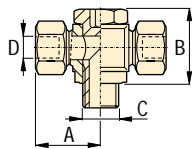
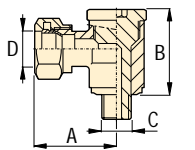
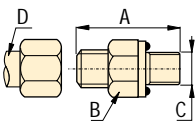
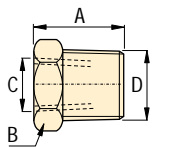
Apply Teflon tape one thread from the end of the fitting, to prevent it from winding up in the hydraulic system.

Multiple line connections are easily installed with Enerpac fittings.



**Product selection**

From	To	Max. pressure bar	Model number	Dimensions			
				A	B	C	D
<b>▼ Reducers</b>							
3/8" NPT	1/4" NPT	700	FZ-1630	19	14	1/4" NPT	3/8" NPT
3/8" NPT	G1/4"	700	BFZ-16301	19	19	G1/4"	3/8" NPT
<b>▼ Adaptors SAE to 37° Flared Tube</b>							
SAE #4	∅ 0,25"	350	FZ-2019	31	14	7/16" UN ∅ 0,25"	
SAE #4	∅ 0,25"	350	FZ-2039	35	22	3/4" UN ∅ 0,25"	
<b>▼ Adaptor SAE to 37° Flared End</b>							
SAE #2	∅ 0,25"	350	FZ-2025	32	14	5/16" UN ∅ 0,25"	
<b>▼ Swivel banjo BSPP to tube</b>							
G1/4"	∅ 8 mm	700	BFZ-307	28	30	G1/4"	∅ 8 mm
<b>▼ Swivel T-banjo BSPP to tube</b>							
G1/4"	∅ 8 mm	700	BFZ-309	28	30	G1/4"	∅ 8 mm
<b>▼ Straight union</b>							
SAE #4	SAE #4	350	FZ-2005	31	14	7/16" UN	7/16" UN
<b>▼ SAE plug</b>							
SAE #4	-	350	FZ-2006	2,5	14	7/16" UN	-
<b>▼ Adaptor NPT to 37° Flared End Tube</b>							
1/4" NPT	∅ .25"	350	FZ-2020	36	14	1/4" NPT	∅ 0,25"
<b>▼ Adaptors</b>							
G1/8"	1/8" NPT	350	FZ-2055	24	19	G1/8"	1/8" NPT
G1/4"	1/4" NPT	350	FZ-2023	32	22	G1/4"	1/4" NPT
1/4" NPT	SAE #4	350	FZ-2042	33	18	1/4" NPT	7/16" UN
G1/8"	1/4" NPT	350	FZ-2060	31	19	G1/8"	1/4" NPT

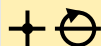


Pressure: 0-350 bar

Threads: NPT, UNF, BSPP

For tubing: 0,25 inch / 8 mm

- (E) Acoplamiento
- (F) Raccords
- (D) Verschraubungen



## Options

Manifolds, couplers, hoses, oil

108 ▶



Gauges and accessories

106 ▶

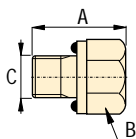
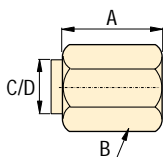
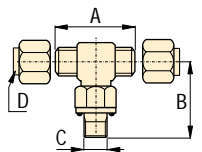
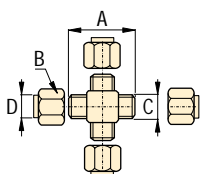
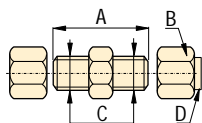
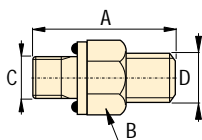
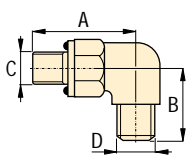
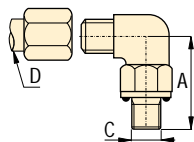


## Important

Do not exceed maximum pressure.

Use fittings and tubing in high cycle applications and areas having excessive heat or weld splatter.

High pressure fittings enable the design of hydraulic systems to meet a variety of applications.



## Product selection

From	To	Max. pressure	Model number	Dimensions			
				A	B	C	D
bar							
<b>▼ Elbow SAE to 37° Flared End</b>							
5/16"-24	ø 0,25"	350	FZ-2024	26	19	5/16" U N	ø 0,25"
7/16"-20	ø 0,25"	350	FZ-2035	26	19	7/16" U N	ø 0,25"
<b>▼ Elbow BSPP to 37° Flared End</b>							
G1/8"	7/16"-20	350	FZ-2051	26	23	G1/8"	7/16" U N
G1/4"	7/16"-20	350	FZ-2052	32	27	G1/4"	7/16" U N
<b>▼ Straight union BSPP to 37° Flared End</b>							
G1/8"	7/16"-20	350	FZ-2053	29	23	G1/8"	7/16" U N
G1/4"	7/16"-20	350	FZ-2054	32	27	G1/4"	7/16" U N
<b>▼ Straight union 37° Flared Tube Ends</b>							
1/4"	ø 0,25"	350	FZ-2033	35	13	1/4"	ø 0,25"
<b>▼ Cross Flared 37° Tube Ends</b>							
1/4"	ø 0,25"	350	FZ-2034	45	13	1/4"	ø 0,25"
<b>▼ Tee SAE to Flared Tube</b>							
SAE #4	ø 0,25"	350	FZ-2036	45	26	7/16" U N	ø 0,25"
<b>▼ 37° Flared nut and sleeve for 1/4" tubing</b>							
1/4"	ø 0,25"	350	FZ-2037	15	14	37°	ø 0,25"
<b>▼ 37° Flared cap for 1/4" tubing</b>							
1/4"	ø 0,25"	350	FZ-2038	15	14	37°	ø 0,25"
<b>▼ SAE Plug</b>							
SAE #8	-	350	FZ-2041	19	18	3/4" U N	-