

Shown: AP-500, MHV-1, ACBS-22A



▶ 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.

Coupler packages

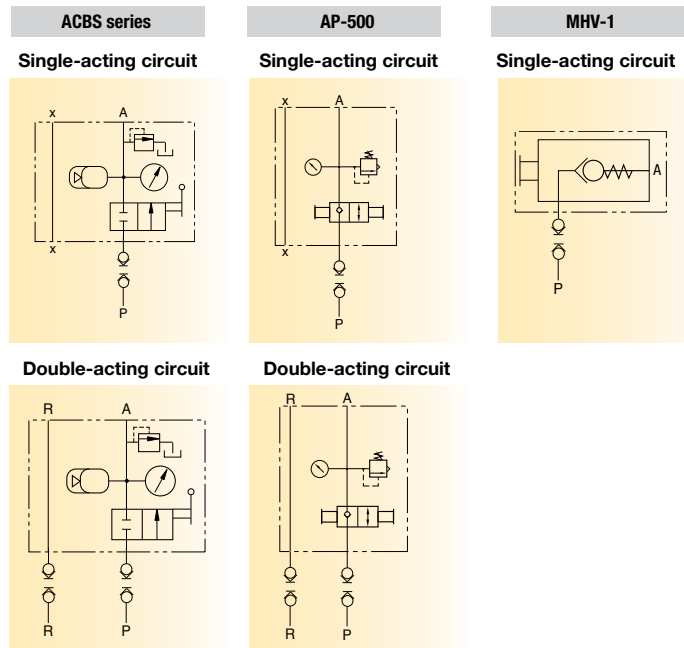
...compact design for easy use of accumulators

- 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

MHV-1 Modular holding valve

- Allows separate operation of clamping fixtures with a single power source
- Ideal for applications when fluid feed lines are impractical. If system pressure is interrupted, the MHV-1 will hold the pressure beyond the valve
- Max. oil flow 305 in³/min
- To release system pressure, rotate valve handle in either direction 90° to release and retract system pressure

Coupler package circuits



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



Product selection

Operating pressure	Model number	Max. rated oil volume	Gas volume	Pre-charged nitrogen pressure	Usable oil capacity
psi		in ³	in ³	psi	in ³ at 5000 psi

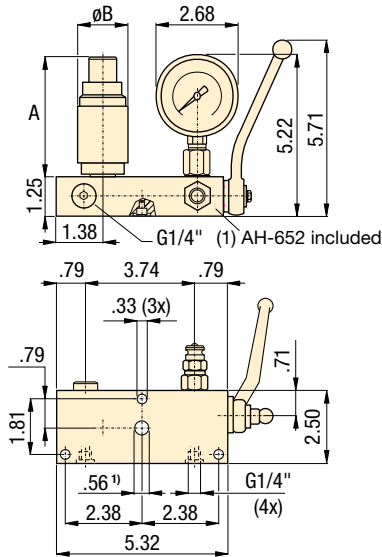
▼ Accumulator coupler packages

1500-5000	ACBS-22A	0.90	1.22	1450	.53
1500-5000	ACBS-202A	7.70	10.37	1450	4.51
0-5000	AP-500	AP-500 uses WA-502 or WA-5010¹⁾			
0-3000	MHV-1	-	-	-	-

¹⁾ See pre-charge chart on page 163 for hydraulic operating pressures.

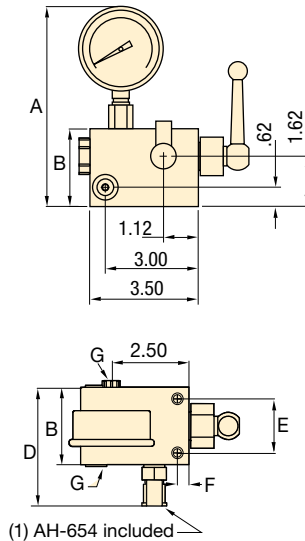
Collet-Lok® product line
 Swing clamps
 Work supports
 Linear Clamps
 Power sources
 Valves
 Pallet Components

ACBS

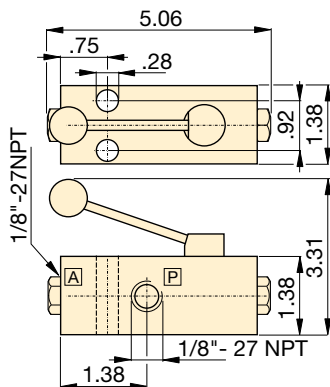


¹⁾ Manifold hole should not exceed Ø .30 inch when port is utilized.

AP-500



MHV-1

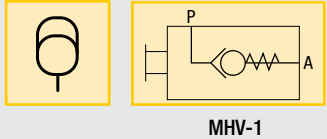


Product dimensions in inches []

Model number	A	B	C	D	E	F	G	Recommended charging tool	lbs
▼ Pre-charged accumulator coupler packages									
ACBS-22A	2.69	1.65	-	-	-	-	G1/4"	WAT-2	10.1
ACBS-202A	4.18	3.33	-	-	-	-	G1/4"	WAT-2	11.8
AP-500	6.44	2.50	3.50	3.84	1.75	0.38	SAE #4	-	11.8
MHV-1	-	-	-	-	-	-	1/8" NPT	-	-

- Pressure: 0-5000 psi
- Oil volume: .10-7.70 in³
- Gas volume: 1.22-10.37 in³

- E** Acopladores manuales
- F** Manuel coupleur
- D** Manuelle kupplung



Options

Couplers [192](#)

High pressure filters [193](#)

Hydraulic oil [193](#)

Fittings [194](#)

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 for use in double-acting hydraulic circuits.
ACBS-Series: AH-652
AP-500: AH-654

Shown: MCH-31, MCRA-11, MCRC-21, MCH-21, MCR-21



▶ The Enerpac manual coupler is available as a dual connection model or dual connection with optional air circuit for part present sensing. The fixture side receiver is available with or without an internal pilot operated check valve. Filtration provides protection from contamination.

Manual coupler applications:

- **With P.O. check**
 - Use MCRC-21 for a complete, unitized coupler receiver solution
- **Without P.O. check:**
 - Use MCR-21 when using a remote mounted Pilot Operated Check Valve

■ Enerpac manual couplers simplify the process of connecting and disconnecting to a palletized fixture.

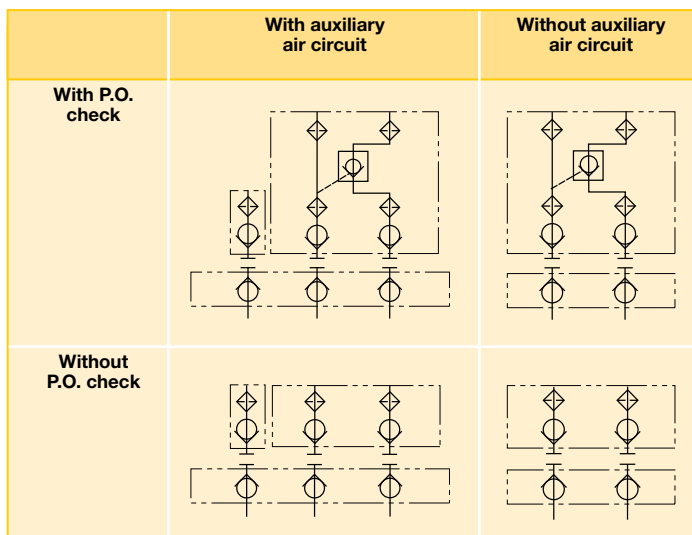


Manual Couplers

...convenient connection

- Use on palletized fixtures
- Available with or without an internal pilot operated (P.O.) check valve
- Optional coupler block available to add circuit for air part present sensing
- Manifold porting
- Porting for tubing connections
- Filtration to prevent contamination
- Removable front plate provides access to the front filters and check cartridge
- Top port accommodates an accumulator or gauge

Manual Coupler Circuits



Model number	Basic configurations	Circuits
MCRC-21	Pallet receiver with P.O. check	Two Hydraulic
MCR-21	Pallet receiver without P.O. check	Two Hydraulic
MCRA-11	Auxiliary air circuit receiver block	One Air
MCH-21	Operator handle	Two Hydraulic
MCH-31	Operator handle	Two Hydraulic, One Air
MCSB-21	Storage block	N/A
MCPS-21	Proximity switch kit	N/A

Select your components

MCRC-21 Pallet Receiver with P.O. Check

An internal pilot operated check valve and multiple ports to accommodate a gauge or accumulator make the MCRC-21 a great choice of coupler receiver for use in a palletized fixture. Internal filtration protects the check from contamination. Use with the MCH-21 operator handle.



MCR-21 Pallet Receiver

For applications where the pilot operated check valve is remote mounted in the fixture circuit, use the MCR-1. Internal filtration protects the circuit from outside contamination.



MCRA-11 Auxiliary air circuit receiver

The MCRA-11 is used to provide an additional connection for use with air part sensing circuits. Use with either the MCRC-21 or the MCR-21. Use with the MCH-31 operator handle.



MCSB-21 Operator Handle Storage Block

Proper storage of the MCH-21 or MCH-31 handle prevents contamination of the couplers, and makes sure that the handle is disconnected from the fixture. Use the MCPS-21 proximity switch to confirm proper storage as an input to the machine control.



MCH-21 Two Coupler Operator Handle

Use the MCH-21 with either the MCRC-21 or the MCR-21 pallet receiver.



MCH-31

Use the MCH-31 when using the MCRA-11 with either the MCRC-21 or MCR-21 receivers.



Max. Flow: 4 GPM

Pressure: 0-5000 psi

- E Acopladores manuales
- F Manuel coupleur
- D Manuelle kupplung

Options

FZ Series fittings

 194 ▶



Hoses and couplers

 192 ▶



Pilot operated check valves

 153 ▶



Accumulators

 162 ▶



Important

Do not couple or uncouple with the hydraulic nozzles under pressure. This can damage the couplers.

Do not exceed maximum flow and pressure.

	Operating pressure psi	Replacement hydraulic nozzle	Replacement filter kit	Voltage	Model number
	100 - 5000	AH654	F12201K	-	MCRC-21
	100 - 5000	AH654	F12201K	-	MCR-21
	10 - 100*	AH654	F12201K	-	MCRA-11
	100 - 5000	AR650	-	-	MCH-21
	100 - 5000	AR650	-	-	MCH-31
	-	AH654	-	-	MCSB-21
	-	-	-	24 VDC	MCPS-21

* Air pressure

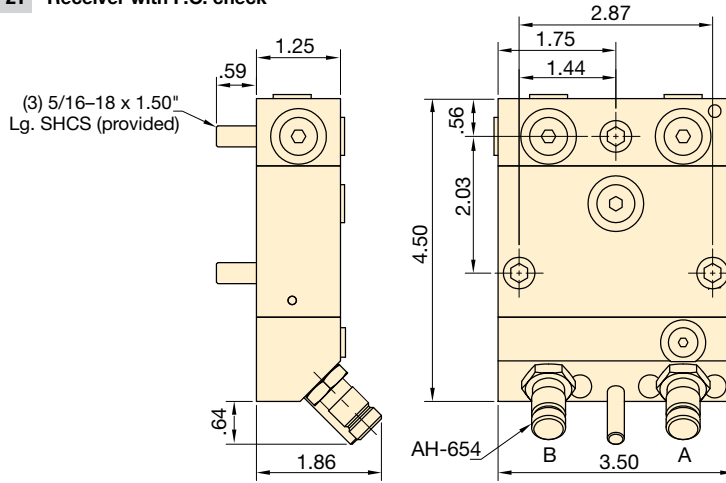
Shown: MCH-21, MCR-21



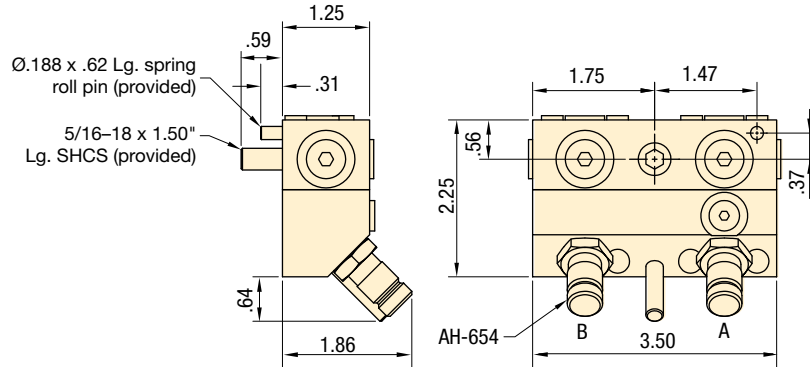
Serie MCR e MCH

The Enerpac MCH-21 two passage operator handle conveniently connects and disconnects to the MCR-21 two passage receiver utilizing a simple push-on, pull-off action.

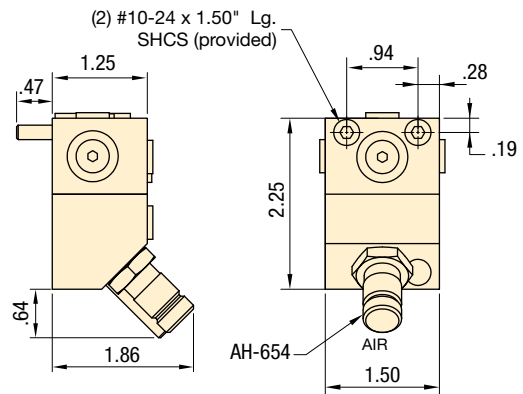
MCR-21 Receiver with P.O. check



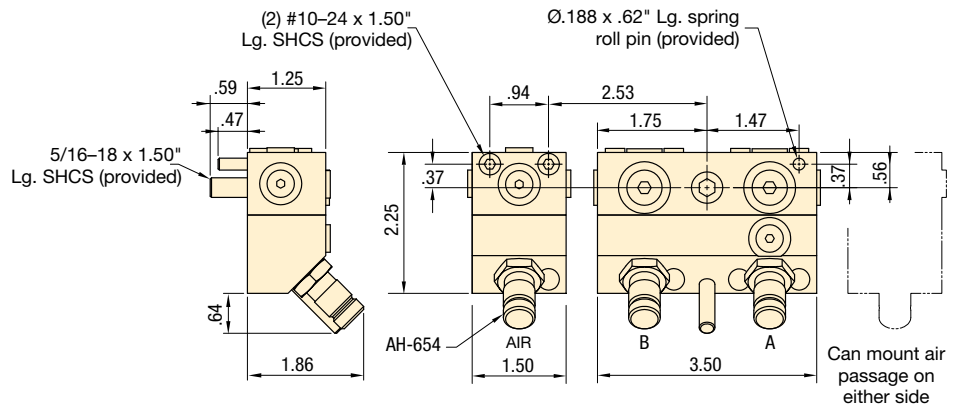
MCR-21 Receiver without P.O. check



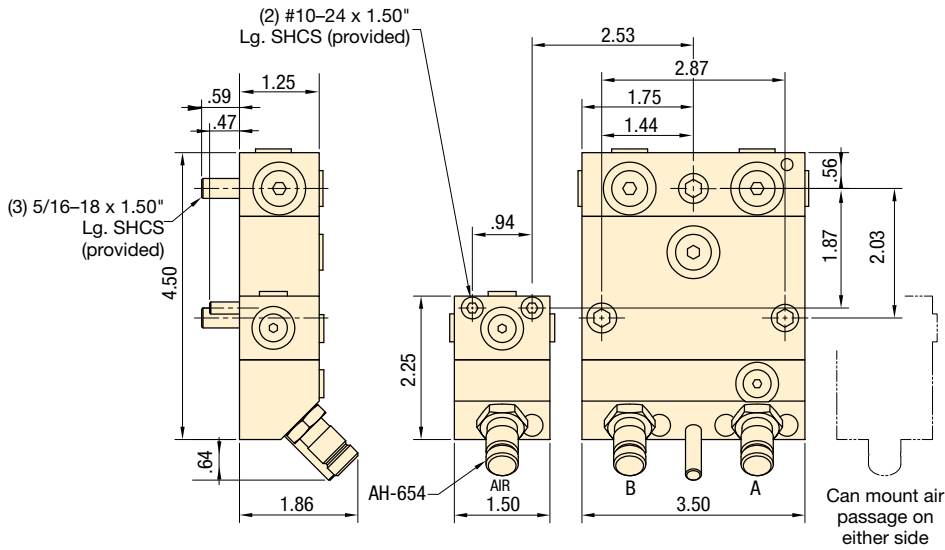
MCRA-11 Auxiliary air circuit receiver



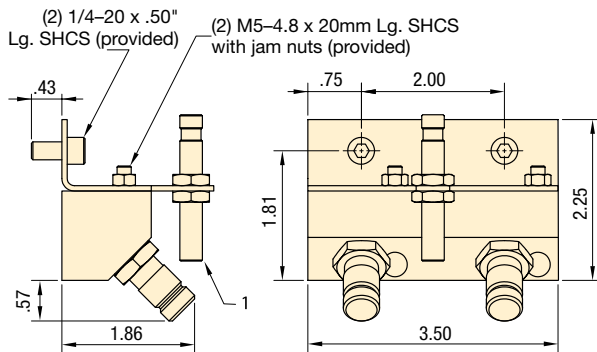
MCR-21 with MCRA-11 Receiver with air passage and without P.O. check



MCRC-21 with MCRA-11

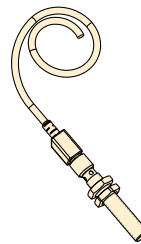


MCSB-21 Storage block

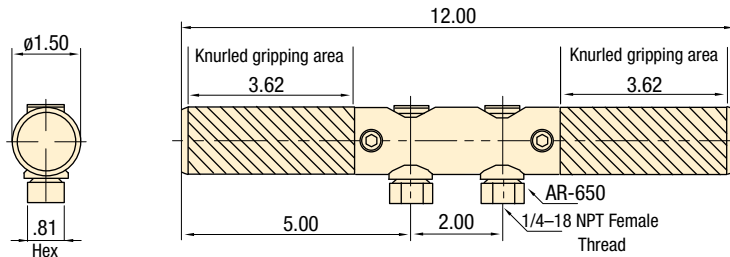


① Optional proximity switch is available. See MCPS-21

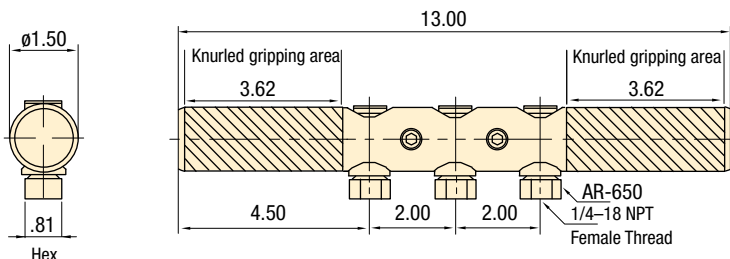
MCPS-21 Optional proximity switch



MCH-21 Operator handle



MCH-31 Operator handle



Max. Flow: 4 GPM

Pressure: 0-5000 psi

- E** Acopladores manuales
- F** Manuel coupleur
- D** Manuelle kupplung

Options

FZ Series fittings

▣ 194 ▶



Hoses and couplers

▣ 192 ▶



Pilot operated check valves

▣ 153 ▶



Accumulators

▣ 162 ▶



Important

Do not couple or uncouple with the hydraulic nozzles under pressure. This can damage the couplers.

Do not exceed maximum flow and pressure.

Manual Couplers *Mounting patterns*

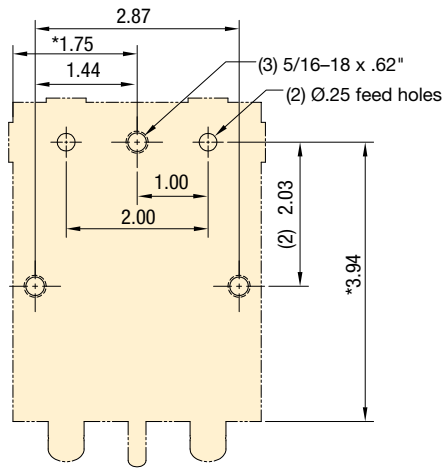
Shown: MCR-21



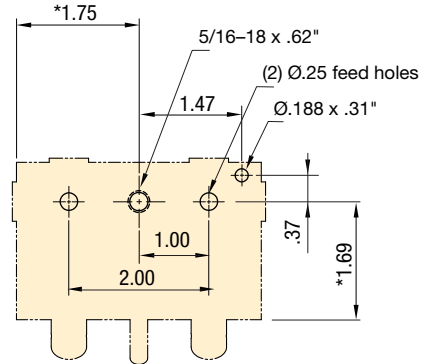
MCR series

The MCR-21 two passage receiver features multiple SAE #4 ports as well as manifold mount ports for easy plumbing to a fixture. Internal filtration in all receiver models protects the circuit from external contamination.

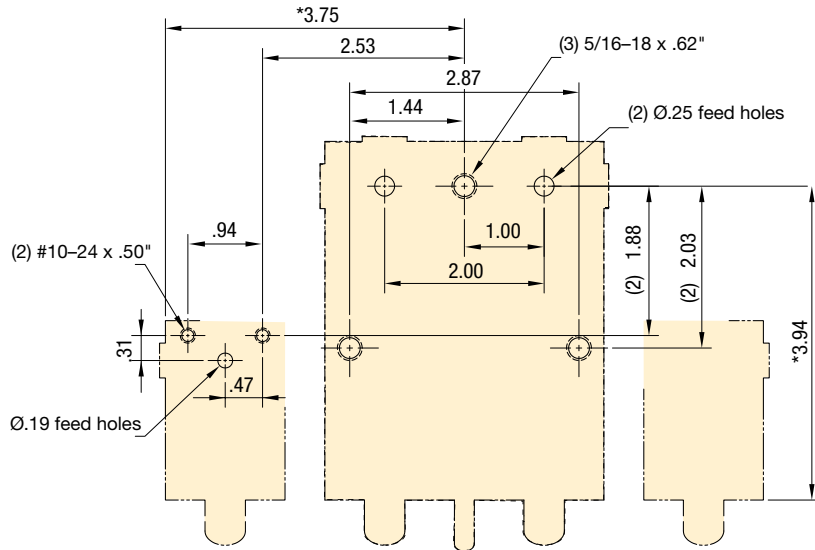
MCR-21 Receiver with P.O. check – Mtg. hole pattern



MCR-21 Receiver without P.O. check – Mtg. hole pattern

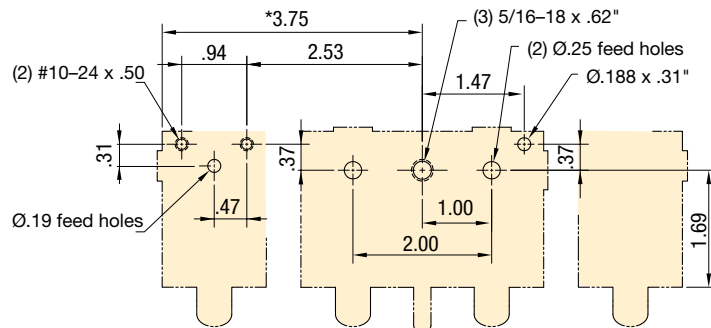


MCRC-21 with MCRA-11 Receiver with air passage and with P.O. check – Mtg. hole pattern



Can mount air passage on either side.

MCR-21 with MCRA-11 Receiver with air passage and without P.O. check – Mtg. hole pattern

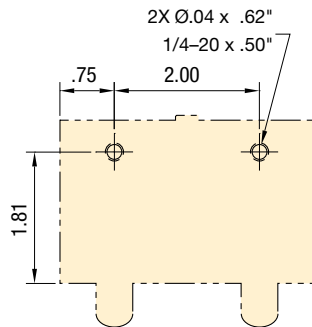


Can mount air passage on either side.

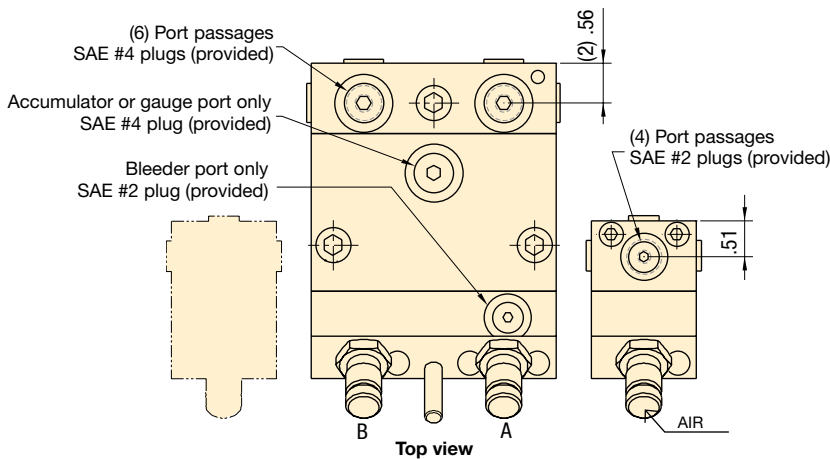
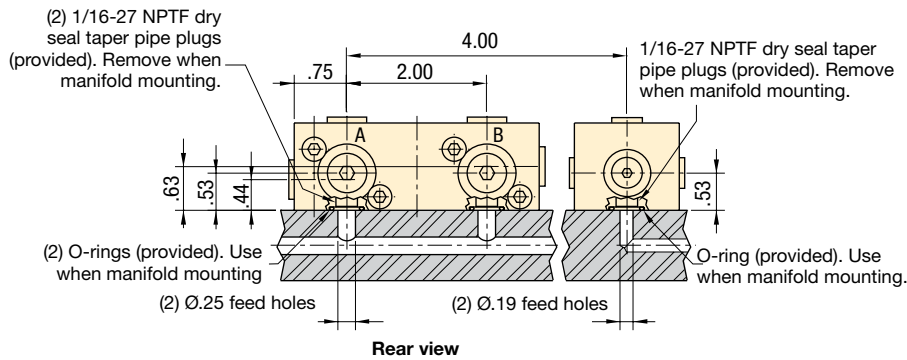
* Minimum from edge of tool plate

Collet-Lok® product line
Swing clamps
Work supports
Linear Clamps
Power sources
Valves
Pallet Components

MCSB-21 Storage Block – Mounting Hole Pattern



Manifold and Port Dimensions



Max. Flow: 4 GPM

Pressure: 0-5000 psi

- E** Acopladores manuales
- F** Manuel coupleur
- D** Manuelle kupplung

Options

FZ Series fittings

194 ▶

Hoses and couplers

192 ▶

Pilot operated check valves

153 ▶

Accumulators

162 ▶

Important

Do not couple or uncouple with the hydraulic nozzles under pressure. This can damage the couplers.

Do not exceed maximum flow and pressure.

Shown: WCA-62, WPA-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.

■ ACCB-2 Control shown with ZW4020HJ-FHLT12U300 Pump.



■ A 4-way auto coupler is 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
- Available as 2 or 4 port model to provide a solution to various hydraulic circuit needs
- Adjustment stroke allows clearance for pallet indexing
- Coupler elements supplied with air blow-off nozzles to prevent damage from contamination
- Automatic coupler control box provides pre-programmed safety features to insure proper sequencing of automatic coupler and fixture operations



ACCB-2, Automatic coupler control box

175 ▶

- Provides automatic or manual control of your 2 or 4 port auto coupler station.
- Panel view informs when auto coupler is retracted or advanced and whether fixture is unclamped or clamped.
- Includes 2 pressure switches, 3 proximity switches.
- Pressure switches monitor clamping and unclamping system pressure.
- Proximity switches inform PLC when auto coupler is advanced or retracted and when pallet is in position for the auto coupling.
- Integrates with ZW4020HJ-FHLT12U300 and ZW5020HJ-FHLT12U300 pumps.

Product selection

Station position	Model number ¹⁾	Adjustable stroke	Oil capacity		Maximum oil flow ²⁾
			in	in ³	
			advance	retract	in ³ /min
▼ 2 port auto coupler					
Base	WCA-62	.20 - .59	.66	.66	60
Base	WCA-82*	4.10 - 4.48	.66	.66	60
Pallet	WPA-62	-	-	-	-
▼ 4 port auto coupler					
Base	WCA-64*	.20 - .59	.66	.66	60
Pallet	WPA-64*	-	-	-	-

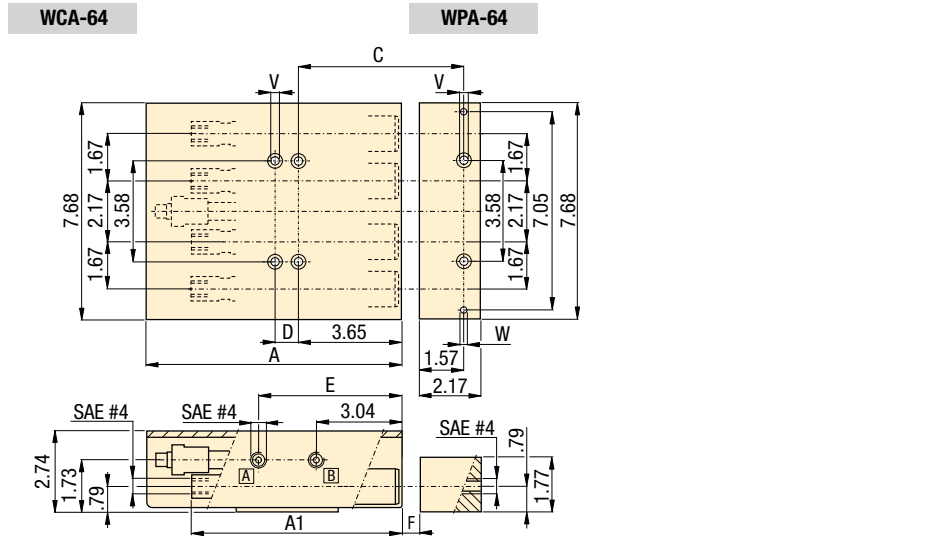
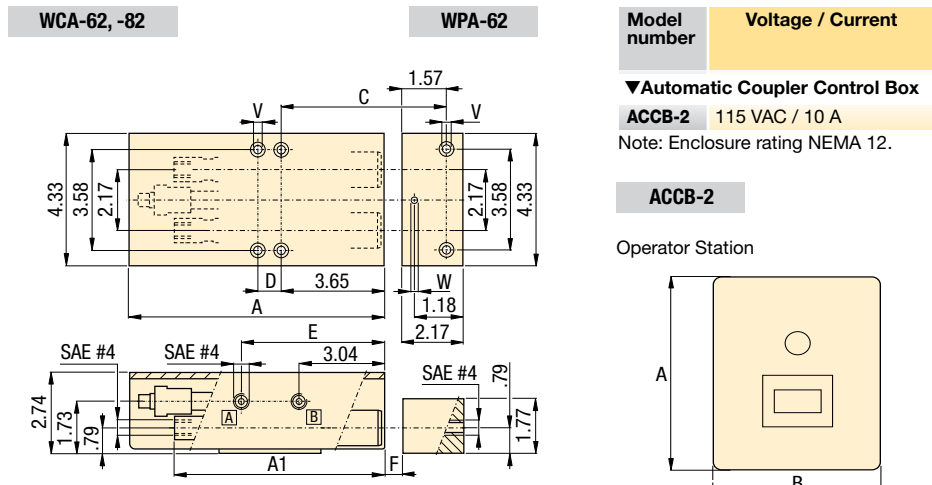
¹⁾ For additional pallet clearance, WCA-82 long stroke model are available.

²⁾ Maximum oil flow of coupler elements is 4.3 GPM.

* This product is made to order. Please contact Enerpac for delivery information before specifying in your design.

Product specifications

Model number	Required radial alignment accuracy in	Operating pressure psi	Hydraulic nozzle model number (included)	Air blow-off fitting model No. (included)	Recommended alignment tool
▼ 2 port auto coupler					
WCA-62	± .02	580 - 5000	CDF-6	FZ-2050	AT-1
WCA-82	± .02	580 - 5000	CDF-6	FZ-2050	AT-2
WPA-62	± .02	580 - 5000	CDM-6	FZ-2050	AT-1
▼ 4 port auto coupler					
WCA-64	± .02	580 - 5000	CDF-6	FZ-2050	AT-1
WPA-64	± .02	580 - 5000	CDM-6	FZ-2050	AT-1



Product dimensions in inches []

Model number	A	A1	B	C	D	E	F max.	V ¹⁾ for mounting bolts thread x length	W ²⁾	lbs
▼ 2 port auto couplers										
WCA-62	8.86	7.48	-	5.42	.83	5.09	.394-.413	.312-18UN x 3.00	-	16.8
WCA-82*	15.67	14.03	-	9.36	3.94	8.20	3.70	.312-18UN x 3.00	-	28.8
WPA-62	-	-	-	-	-	-	-	.375-16UN x 2.00	.23	4.0
▼ 4 port auto couplers										
WCA-64*	8.86	7.48	-	5.42	.83	5.09	.394-.413	.312-18UN x 3.00	-	29.1
WPA-64*	-	-	-	-	-	-	-	.375-16UN x 2.00	.23	6.6
▼ Automatic coupler control box³⁾										
ACCB-2	13.78	-	11.81	-	-	-	-	-	-	30.0

¹⁾ Mounting bolts are not included. ²⁾ Drill dowel pin holes after installing WPA.
 * This product is made to order. Please contact Enerpac for delivery information before specifying in your design.

Connection: 2-4 ports
 Stroke: .20-4.48 inch
 Pressure: 580-5000 psi

- Acopladores automáticos
- Coupleurs automatiques
- Automatische Kupplungen

Options

High pressure filters

 193 ▶

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

Hoses and couplers

 192 ▶

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.

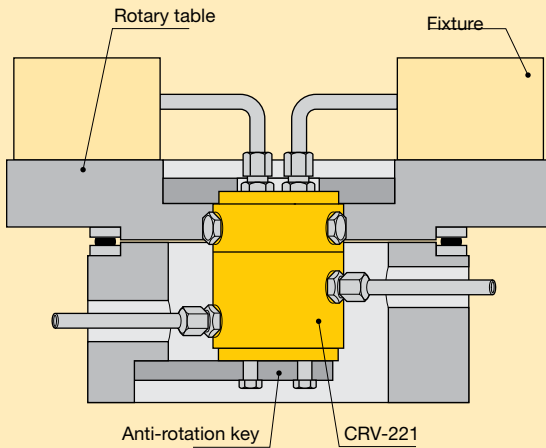
Do not exceed maximum flow and pressure.

Rotary couplers *Application & selection*

Shown: CRV-221, CR-111



▶ 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.



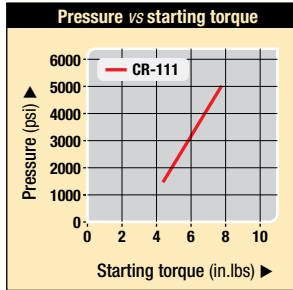
■ In this application eight CRV-221 rotary couplers are installed to power the individual presses of an eight station rotary press table.



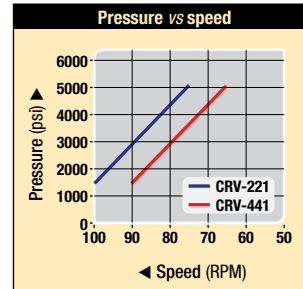
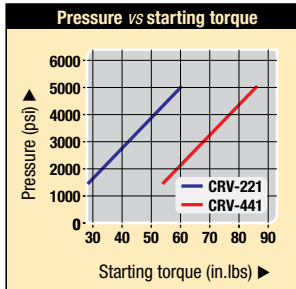
Permanent hydraulic connection on indexing and rotating work stations

- High rotation per minute
- Low starting torque
- Internal oil bearings for increased lifetime
- Manifold mounting adaptors available to reduce fixture plumbing

▶ Starting torque and speed diagrams



Max. operating speed = 30 RPM.



Oil loss CRV-221 = 1.22 in³/h, CRV-441 = 2.44 in³/h

▶ Product selection

No. of radial passages	Model number ¹⁾	Operating pressure range	Maximum speed		Starting torque	
			RPM		in.lbs	
			psi	1500 psi	5000 psi	1500 psi
1	CR-111	1500-5000	30	30	4.5	8
2	CRV-221	1500-5000	100	75	27	60
4	CRV-441	1500-5000	90	65	53	182

¹⁾ Before selecting, note the starting torque and speed diagrams above.

▶ Manifold mounting adaptor



Mounting adaptor AMP-2, AMP-4

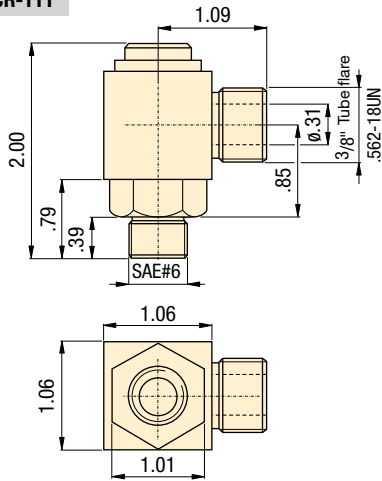
Mounts onto end of two and four passage rotary unions. Allows O-ring mounting directly to fixture.

▶ Product selection

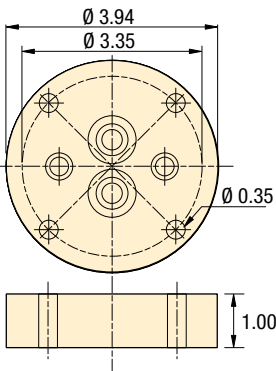
Number of radial passages	Model number	Operating pressure range	Used with
		psi	
2	AMP-2	1500-5000	CRV-221
4	AMP-4	1500-5000	CRV-441

Product dimensions in inches [\varnothing]

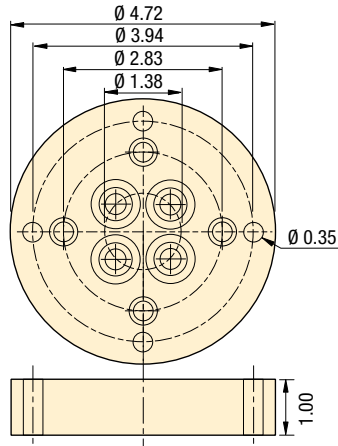
CR-111



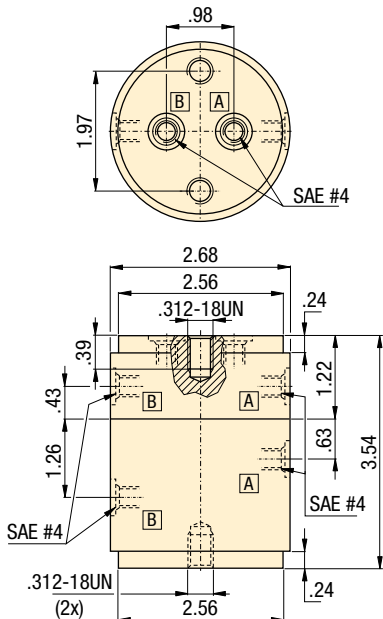
AMP-2



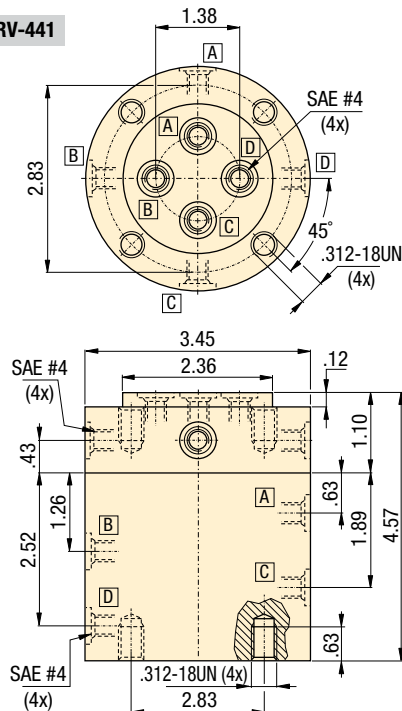
AMP-4



CRV-221

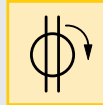


CRV-441



- Passages: 1-4 lines
- Speed: 30-100 RPM max.
- Pressure: 1500-5000 psi

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



Options

Fittings
 194

Couplers
 192

Hoses and couplers
 192

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.

For proper application, clamp force, pressures and timing, consult Enerpac for support.

Manifolds, couplers, hoses, tubing

Shown: HLS, HF, AH, AR, FL, T, A-series



Use genuine Enerpac manifolds, couplers, hoses and tubings 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.

AH/AR series, Couplers

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

HLS series, Hoses

High pressure hydraulic hoses, featuring a heavy-duty protective plastic coating.

T-series, Tubing

High pressure steel tubing, available in 5 ft. lengths.

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

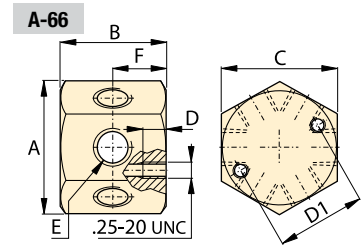
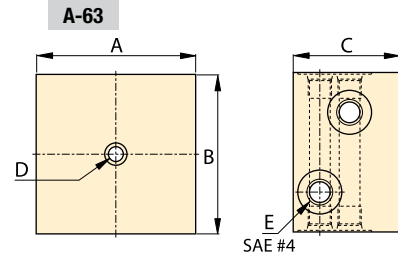
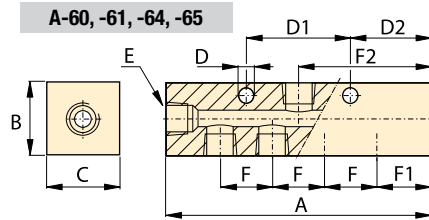
Hydraulic hoses and tubings

- Heavy-duty coating for abrasion resistance
- Resistant against mineral based hydraulic oil as well as water glycols
- High pressure steel tubing for permanent installations

Important

Do not exceed the maximum pressure.

Inspect hoses and tubing frequently and replace as required.



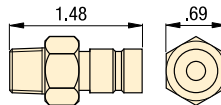
Manifolds dimensions in inches []

Number of ports	Model number	A	B	C	D	D1	D2	E	F	F1	F2	Weight lbs
2 x 4	A-63	3.00	3.00	2.00	.25	-	-	SAE #4	-	-	-	2.0
5	A-60	3.50	1.25	1.25	.28	1.50	1.00	SAE #4	1.50	1.00	1.75	1.0
7	A-61	6.50	1.25	1.25	.28	1.50	1.25	SAE #4	1.00	1.25	3.25	1.4
7	A-64	7.00	1.25	1.25	.25	3.00	1.25	.375-18 NPT	1.50	1.25	3.50	3.3
7	A-65	14.5	1.25	1.25	.25	8.00	1.25	.375-18 NPT	4.00	1.25	7.25	6.1
6	A-66	2.30	1.63	2.00	.52	1.50	-	.375-18 NPT	-	-	-	1.8

Couplers

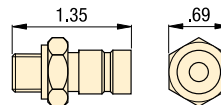
AH-650

Male coupler half
.250-18 NPT



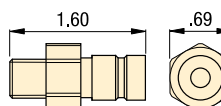
AH-652

Male coupler half
G1/4" BSPP



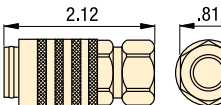
AH-654

Male coupler half
SAE #4 .437-20 UNF



AR-650

Female coupler half
.250-18 NPT



Hoses

Length ft	Model number	Internal diameter in	Maximum pressure psi
▼ 1/4", 37° flare			
1	HLS-512	.19	5000
2	HLS-524	.19	5000
3	HLS-536	.19	5000
4	HLS-548	.19	5000
5	HLS-560	.19	5000
10	HLS-5120	.19	5000
▼ 3/8" NPT			
3	H-9203	.25	10,000
6	H-9206	.25	10,000
10	H-9210	.25	10,000

Tubing

Length ft	Model number	Internal diameter in	External diameter in	Max. pressure psi
5	T-2560	.152	.25	5000

Options

Fittings

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Collet-Lok® product line
 Swing clamps
 Work supports
 Linear clamps
 Power sources
 Valves
 Pallet components
 System components