

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

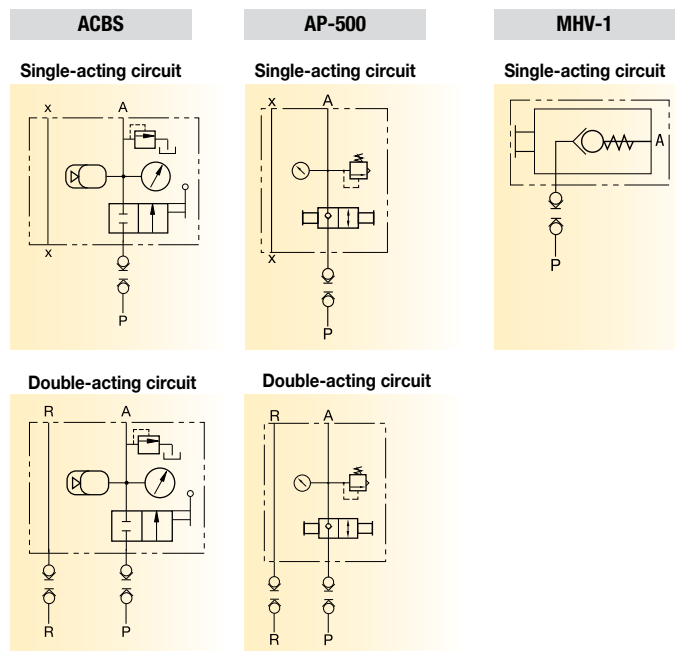
...compact design for easy use of accumulators

- 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 5 l/min
- To release system pressure, rotate valve handle in either direction 90° to release and retract system pressure.

i Coupler package circuits



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



g Product selection

Operating pressure	Model number	Max. rated oil volume	Gas volume	Pre-charged nitrogen pressure	Usable oil capacity
bar		cm ³	cm ³	bar	cm ³ at 350 bar
100 - 350	ACBS-22A	16,4	20,0	100	8,7
100 - 350	ACBS-202A	163,9	169,9	100	73,9
0 - 350	AP-500	AP-500 uses WA-502 or WA-5010 ¹⁾			
0 - 207	MHV-1	-	-	-	-

▼ Accumulator coupler packages

100 - 350	ACBS-22A	16,4	20,0	100	8,7
100 - 350	ACBS-202A	163,9	169,9	100	73,9
0 - 350	AP-500	AP-500 uses WA-502 or WA-5010 ¹⁾			
0 - 207	MHV-1	-	-	-	-

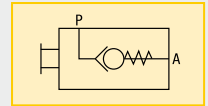
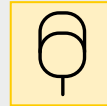
¹⁾ See pre-charge chart on page 163 for hydraulic operating pressures.

Pressure: 0 - 350 bar

Oil volume: 16,4 - 163,9 cm³

Gas volume: 20 - 169,9 cm³

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



Options

Couplers

☐ 192 ▶



High pressure filters

☐ 193 ▶



Hydraulic oil

☐ 193 ▶



Fittings

☐ 194 ▶

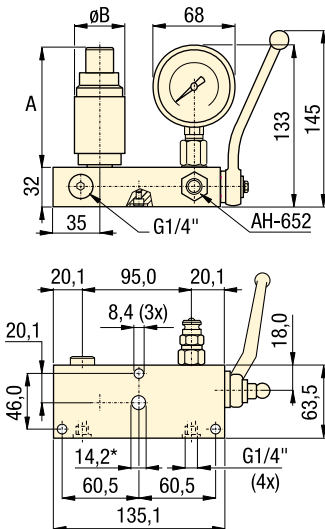


Important

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.

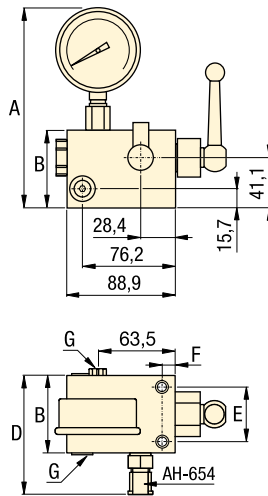
**Order an additional male coupler for use in double-acting hydraulic circuits.
ACBS-Series: AH-652
AP-500: AH-654**

ACBS

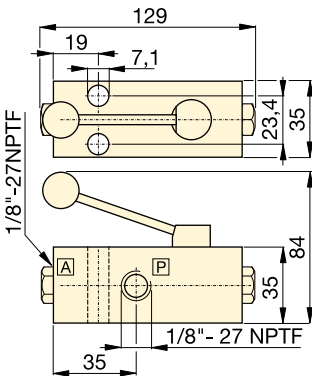


¹⁾ Manifold hole should not exceed \varnothing 7,6 mm when port is utilized.

AP-500



MHV-1



Product dimensions in mm []

Model number	A	B	C	D	E	F	G	Recommended charging tool	kg
▼ Pre-charged accumulator coupler packages									
ACBS-22A	68	42	-	-	-	-	G1/4"	WAT-2	4,6
ACBS-202A	106	85	-	-	-	-	G1/4"	WAT-2	5,4
AP-500	163,6	63,5	89,0	97,5	44,5	9,7	SAE #4	-	3,9
MHV-1	-	-	-	-	-	-	1/8" NPTF	-	-

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

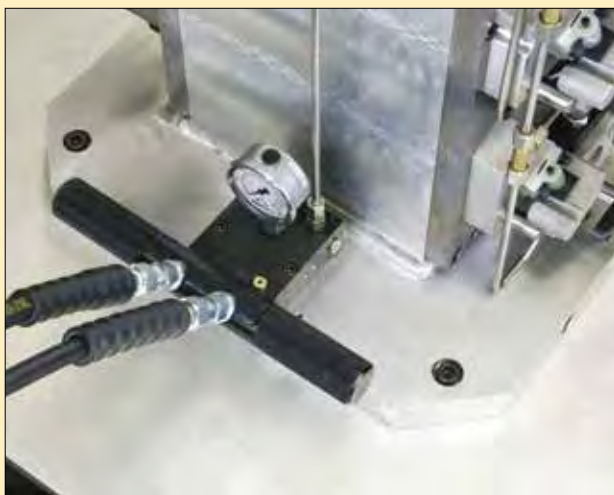


The Enerpac manual coupler is available as a dual connection model or dual connection with optional air circuit for part present sensing. The fixture side receiver is available with or without an internal pilot operated check valve. Filtration provides protection from contamination.

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.*

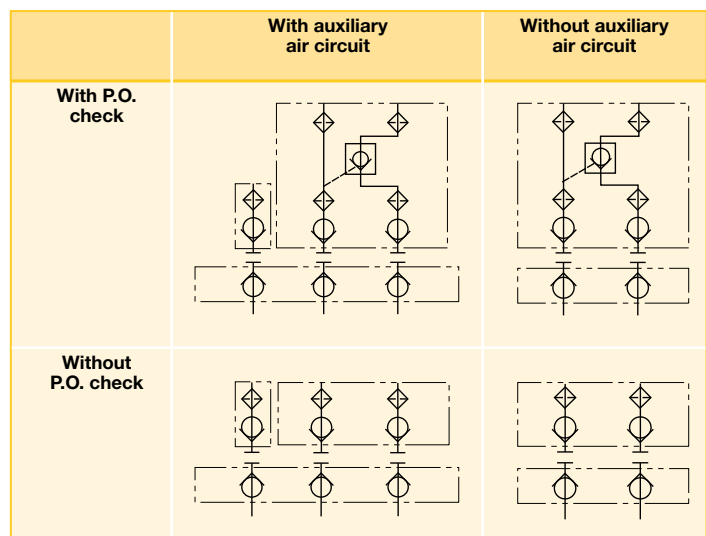


Manual Couplers

...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



Product selection

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	-
MCPS-21	Proximity switch kit	-

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 Operator Handle

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



Max. Flow: 15 l/min

Pressure: 0 - 350 bar

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

Options

FZ Series fittings

 194 ▶



Hoses

 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 bar	Replacement hydraulic nozzle	Replacement filter kit	Voltage VDC	Model number
7 - 350	AH-654	FL-2201K	-	MCRC-21
7 - 350	AH-654	FL-2201K	-	MCR-21
1 - 7 *	AH-654	FL-2201K	-	MCRA-11
7 - 350	AR-650	-	-	MCH-21
7 - 350	AR-650	-	-	MCH-31
-	AH-654	-	-	MCSB-21
-	-	-	24	MCPS-21

* Air pressure

Manual Couplers *Dimensions & options*

Shown: MCH-21, MCR-21



MCR and MCH-series

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.

Collet-Lok® products

Swing clamps

Work Supports

Linear Cylinders

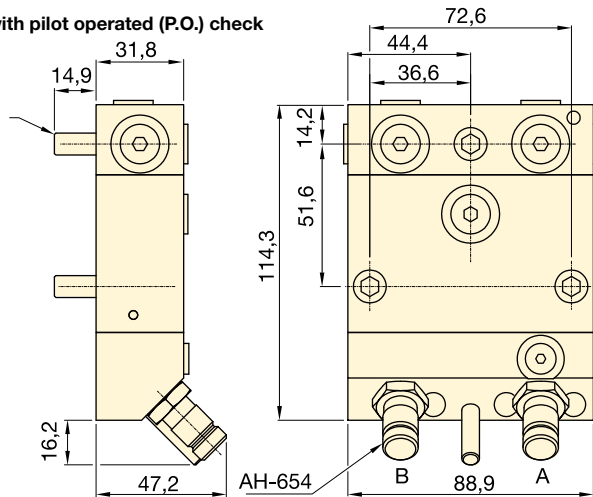
Power Sources

Valves

Pallet Components

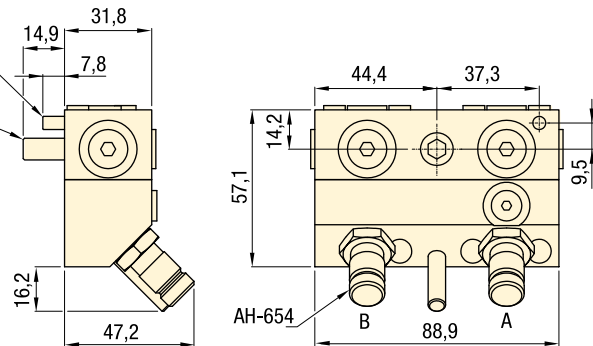
MCR-21 Receiver with pilot operated (P.O.) check

See page 170 for mounting pattern.



MCR-21 Receiver without pilot operated check

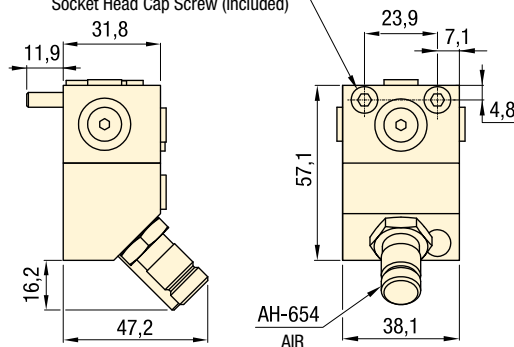
\varnothing 4,8 mm
 15,7 mm length
 spring roll pin (included)
 5/16"-18UN
 38 mm length
 Socket Head Cap Screw (included)



MCRA-11 Auxiliary air circuit receiver

See page 170 for mounting pattern.

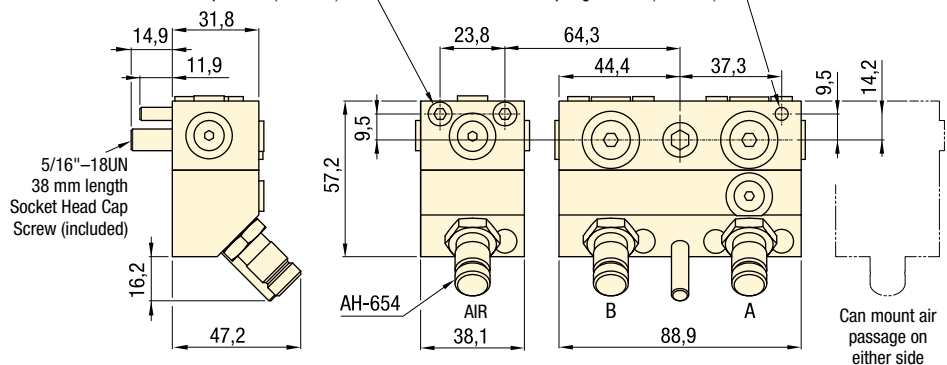
2x #10-24 UN 38 mm length
 Socket Head Cap Screw (included)



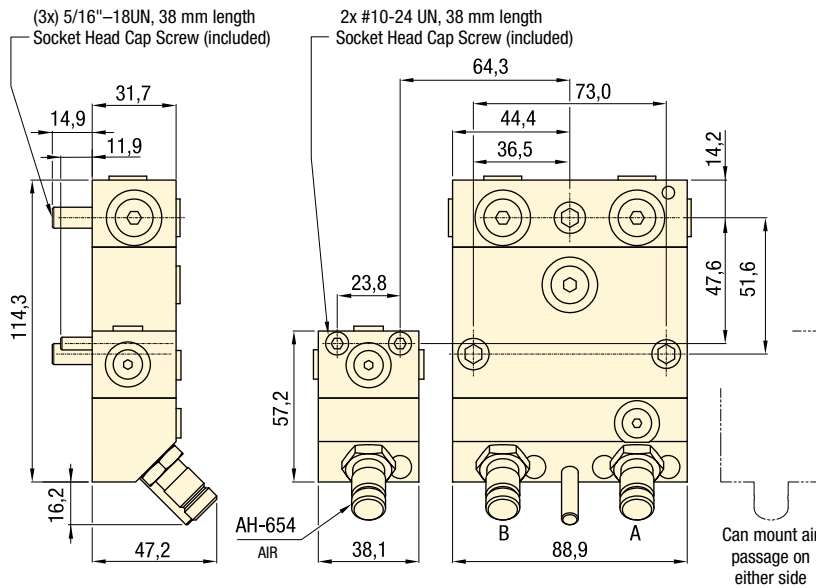
MCR-21 with MCRA-11 Receiver with air passage and without P.O. check

2x #10-24 UN 38 mm length
 Socket Head Cap Screw (included)
 5/16"-18UN
 38 mm length
 Socket Head Cap Screw (included)

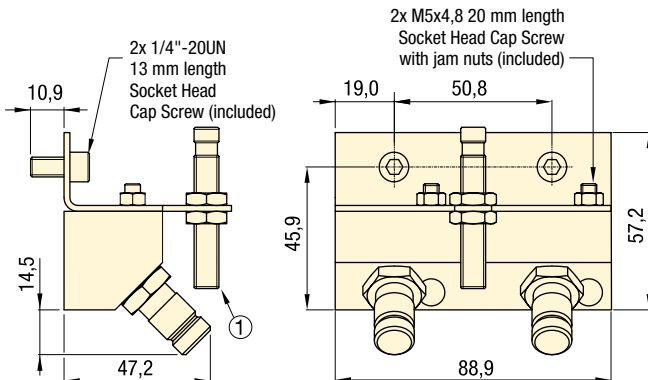
\varnothing 4,8 mm, 15,8 mm length
 Spring Roll Pin (included)



MCR-21 with MCRA-11 See page 170 for mounting pattern.

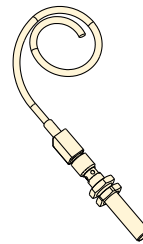


MCSB-21 Storage block. See page 171 for mounting pattern.

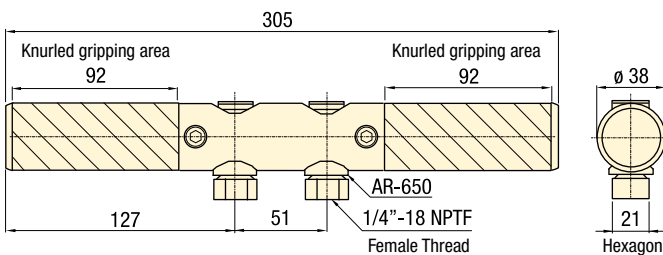


① Optional proximity switch is available. See MCPS-21

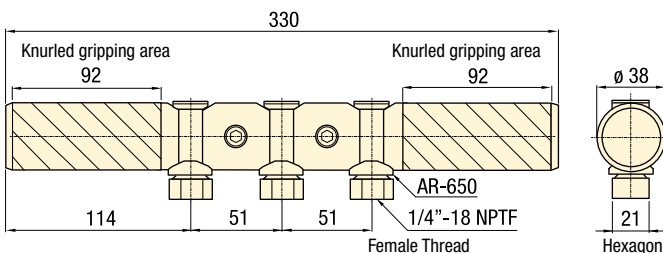
MCSB-21
Optional proximity switch



MCH-21 Operator handle



MCH-31 Operator handle



Max. Flow: 15 l/min

Pressure: 0 - 350 bar

- 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.

Collet-Lok® products

Swing clamps

Work Supports

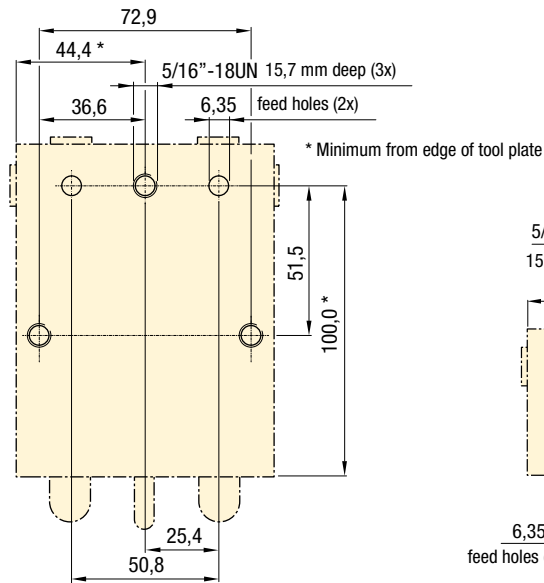
Linear Cylinders

Power Sources

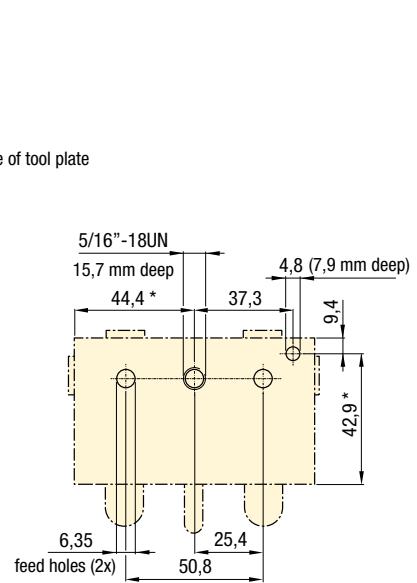
Valves

Pallet Components

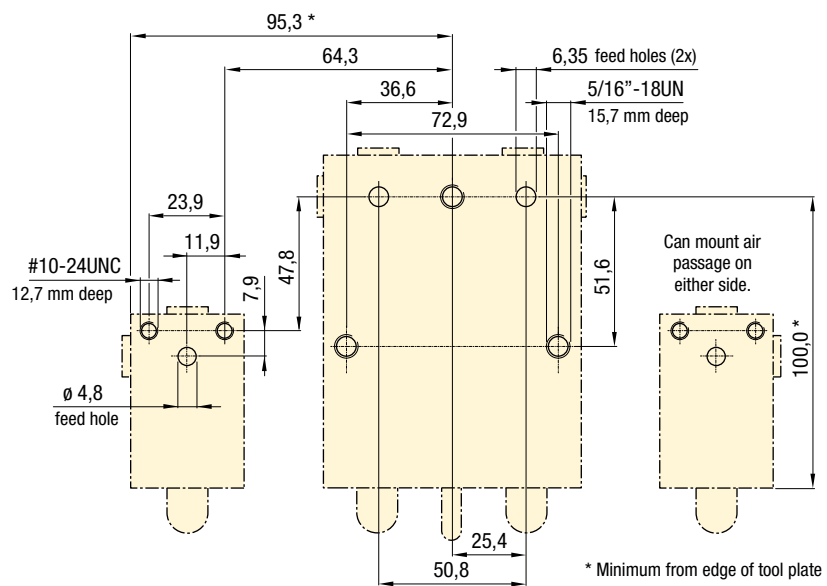
MCRC-21 Receiver with P.O. check – Mounting hole pattern



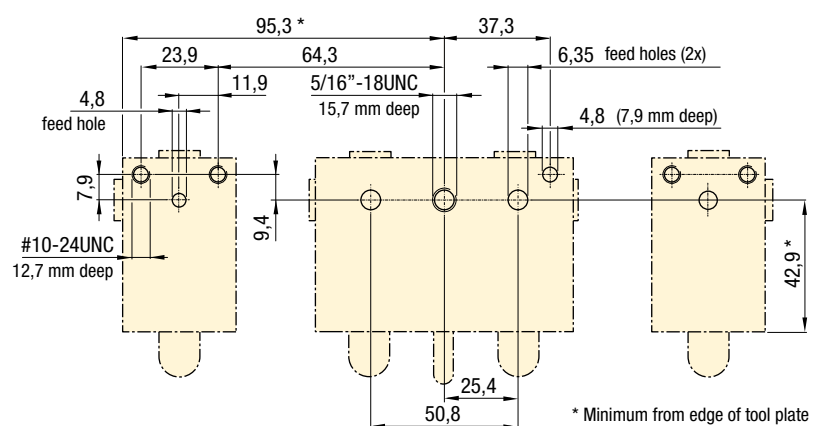
MCR-21 Receiver without P.O. check – Mounting hole pattern



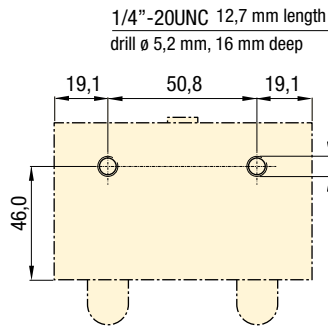
MCRC-21 with MCRA-11 Receiver with air passage and with P.O. check – Mtg. hole pattern



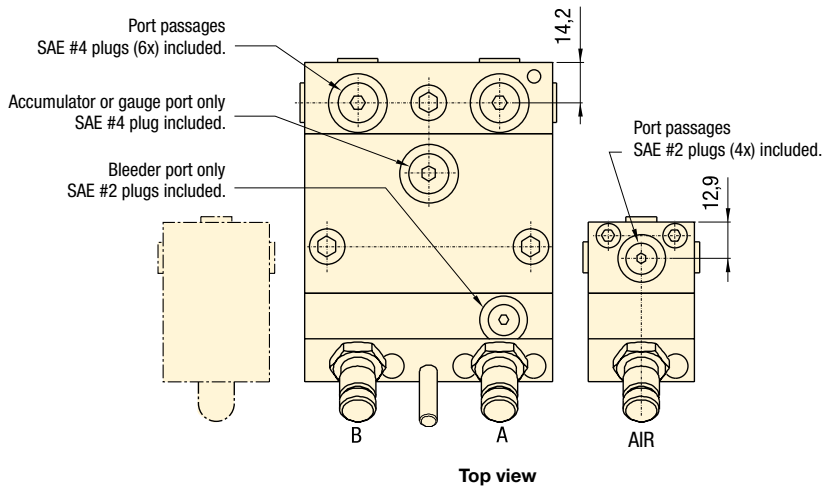
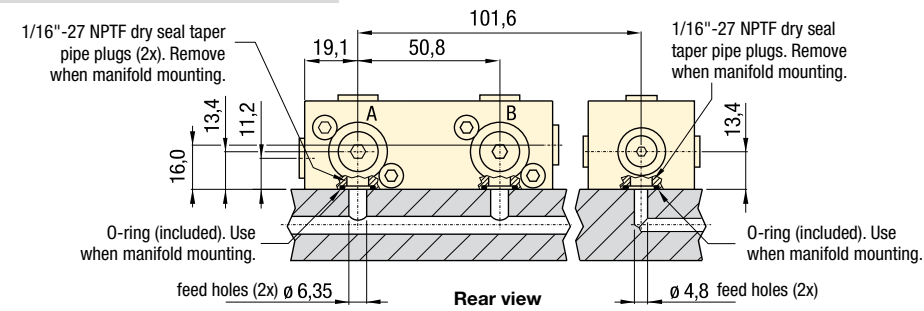
MCR-21 with MCRA-11 Receiver with air passage and without P.O. check – Mtg. hole pattern



MCSB-21 Storage Block – Mounting Hole Pattern



Manifold and Port Dimensions



Flow: 15 l/min max.

Pressure: 0 - 350 bar

- 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: 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.

■ ACCB-2 Control shown with ZW4020HW-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 ZW4020HW-FHLT12U300 and ZW5020HW-FHLT12U300 pumps.

Product selection

Station position	Model number ¹⁾	Adjustable stroke		Oil capacity		Maximum oil flow ²⁾
		mm	advance	cm ³ retract	l/min	
▼ 2 port auto coupler						
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	-		-	-	-
▼ 4 port auto coupler						
Base	MCA-64*	5 - 15		10,8	10,8	1,0
Pallet	MPA-64*	-		-	-	-

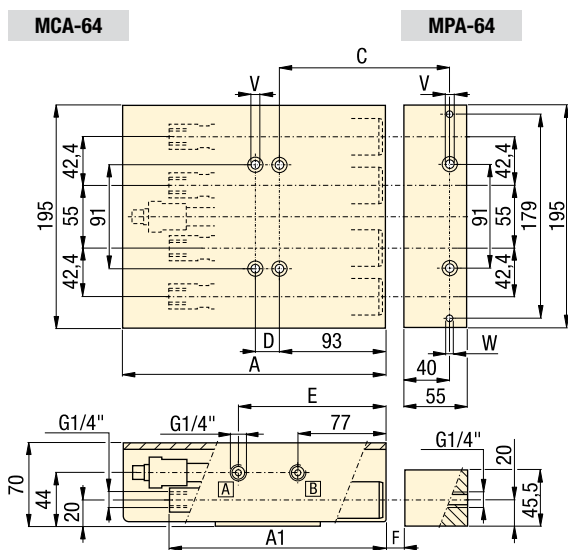
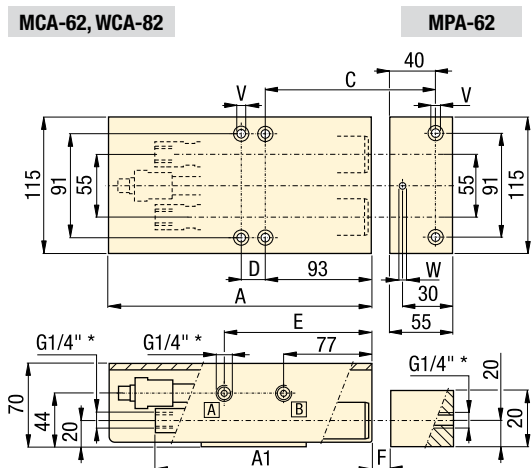
¹⁾ For additional pallet clearance, WCA-82 long stroke model are available.

²⁾ Maximum oil flow of coupler elements is 16 l/min.

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

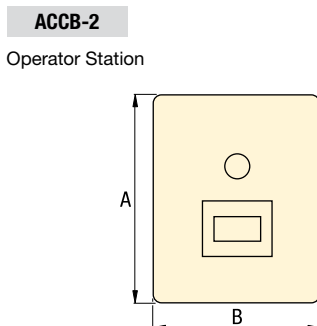
Product specifications

Model number	Required radial alignment accuracy mm	Operating pressure bar	Hydraulic nozzle model number (included)	Air blow-off fitting model No. (included)	Recommended alignment tool
▼ 2 port auto coupler					
MCA-62	± 0,5	40 - 350	CDF-6	FZ-2050	AT-1
WCA-82	± 0,5	40 - 350	CDF-6	FZ-2050	AT-2
MPA-62	± 0,5	40 - 350	CDM-6	FZ-2050	AT-1
▼ 4 port auto coupler					
MCA-64	± 0,5	40 - 350	CDF-6	FZ-2050	AT-1
MPA-64	± 0,5	40 - 350	CDM-6	FZ-2050	AT-1



Model number	Voltage / Current
▼ Automatic Coupler Control Box	
ACCB-2	115 VCA / 10 A

Note: Enclosure rating NEMA 12.



Connection: 2 - 4 ports


Stroke: 5 - 113 mm

Pressure: 40 - 350 bar

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

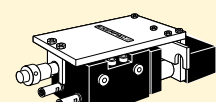
Options

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.

Product dimensions in mm []

Model number	A	A1	B	C	D	E	F max.	V ¹⁾ for mounting bolts thread x length	W ²⁾	 kg
▼ 2 port auto couplers										
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
▼ 4 port auto couplers										
MCA-64*	225	190	-	137,7	21	129,3	10,0-10,5	M8 x 90	-	13,2
MPA-64*	-	-	-	-	-	-	-	M8 x 90	5,8	3,0
▼ Automatic coupler control box³⁾										
ACCB-2	325	-	300	-	-	-	-	-	-	13,6

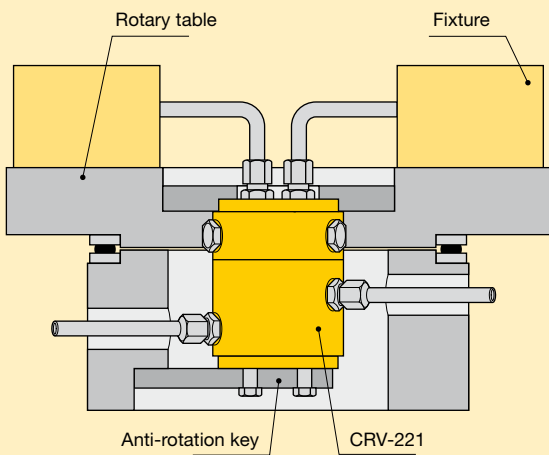
¹⁾ Mounting bolts are not included. ²⁾ Drill dowel pin holes after installing MPA. * This product is made to order. Please contact Enerpac for delivery information before specifying in your design.

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.



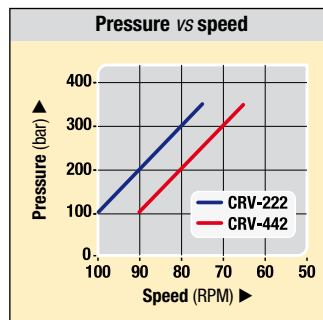
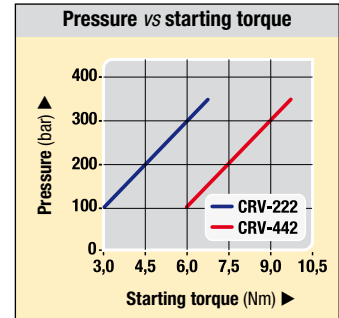
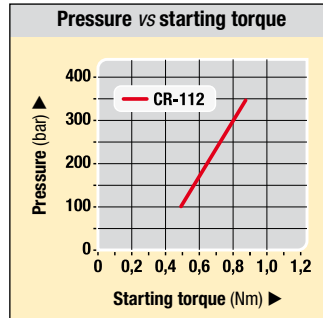
In this application eight CRV-222 rotary couplers are installed to power the individual presses of an eight station rotary press table.



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



NOTES:
Maximum oil flow: 9 l/min.
Oil loss CRV-222 = 30 cm³/hour.
Oil loss CRV-442 = 40 cm³/hour.

Product selection

No. of radial passages	Model number ¹⁾	Operating pressure range bar	Maximum speed RPM		Starting torque Nm	
			100 bar	350 bar	100 bar	350 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

¹⁾ Before selecting, note the starting torque and speed diagrams above.
Maximum oil flow: 9 l/min.

Manifold mounting adaptor



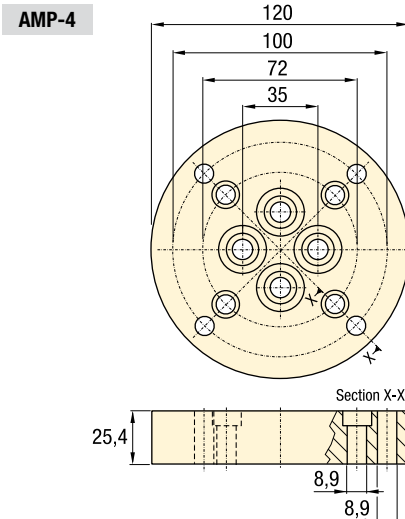
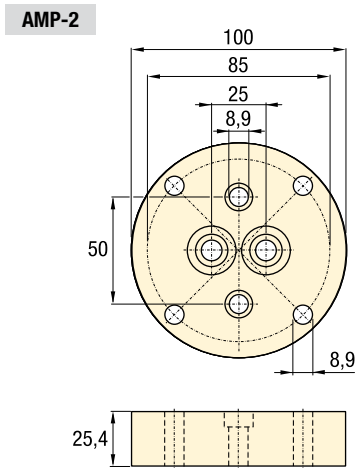
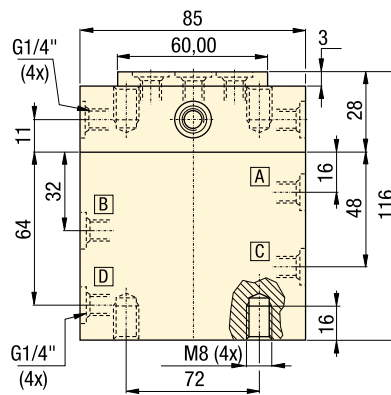
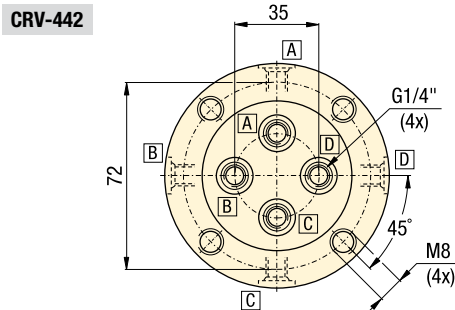
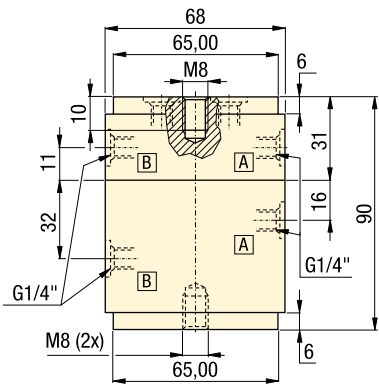
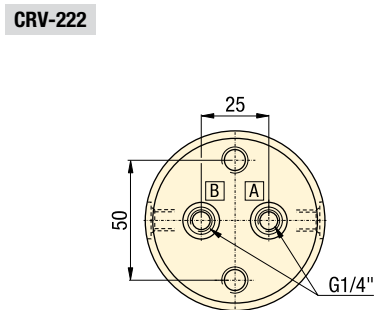
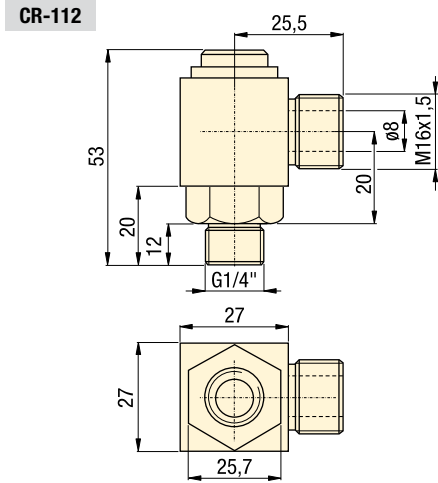
Mounting adaptor AMP-2, AMP-4

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 bar	Used with
4	AMP-4	100 - 350	CRV-442

Product dimensions in mm []

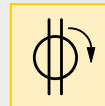


Passages: 1 - 4 lines

Speed: 30 - 100 RPM max.

Pressure: 100 - 350 bar

- E** Acoplamiento giratorios
- 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, hoses, couplers, tubing

Shown: Hoses, Couplers, Manifolds



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.

H700-series, Hoses

High pressure hydraulic hoses, for demanding applications. Thermo-plastic safety hoses for use on all Enerpac pumps and cylinders.

C-series, High Flow Couplers

High pressure couplers recommended for use with all Enerpac pumps and cylinders.

AH, AR-series, Couplers

Spee-D® quick disconnect low leakage couplers for easy connection of hydraulic circuits.

T-series, Tubing

High pressure steel tubing, available in 1,5 m lengths.

Manifolds

- Easy to connect
- Mounting holes on all models

Couplers

- For more safety: couplers cannot be connected or disconnected while under hydraulic pressure

Hydraulic hoses and tubings

- Thermo-plastic safety hoses (max. 700 bar)
- Four layer design, including two high strength wire braids
- High pressure steel tubing for permanent installations.

Important

Do not exceed the maximum pressure.

Inspect hoses and tubing frequently and replace as required.

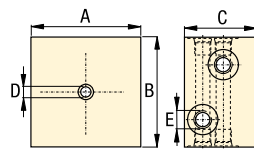
Options

Fittings

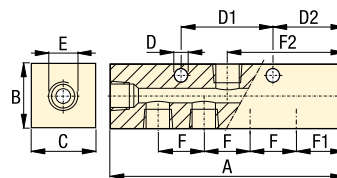
194 ▶



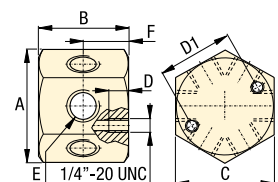
A-63



A-60, -61, -64, -65



A-66



Manifolds dimensions in mm [± 0.1]

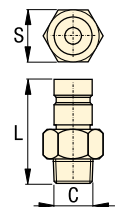
Number of ports	Model number	A	B	C	D	D1	D2	E	F	F1	F2	kg
2 x 4	A-63	76	76	51	6,3	-	-	SAE #4	-	-	-	0,9
5	A-60	89	32	32	7,1	38	25	SAE #4	38	25	44	0,5
7	A-61	165	32	32	7,1	38	32	SAE #4	25	32	83	0,6
7	A-64	178	32	32	6,3	76	32	3/8"-18 NPTF	38	32	89	1,5
7	A-65	368	32	32	6,3	203	32	3/8"-18 NPTF	102	32	184	2,7
6	A-66	58	42	51	13,2	38	-	3/8"-18 NPTF	-	-	-	0,9

Thermoplastic Safety Hoses

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

Couplers

Max. pressure bar	Max. oil flow l/min	Model Nr. coupler complete	Model Nr. female half	Model Nr. male half	Thread size C	L mm	S mm
700	40	C-604	CR-400	CH-604	3/8" NPTF	64	22
700	40	A-604	AR-400	AH-604	3/8" NPTF	42	19
350	17	-	AR-650 *	AH-650	1/4" NPTF	38	17,5
350	17	-	AR-650 *	AH-652	G 1/4"	34	17,5
350	17	-	AR-650 *	AH-654	SAE #4	41	17,5



* Note: Thread size **AR-650** is 1/4" NPTF, dimension S is 20,6 mm. Use **FZ-1055** fitting to connect to 3/8" hose ends.

Tubing

Maximum Pressure bar	Length m	Model number	Internal diameter mm	External diameter inch
350	1,5	T-2560	ø 3,8	ø 1/4"