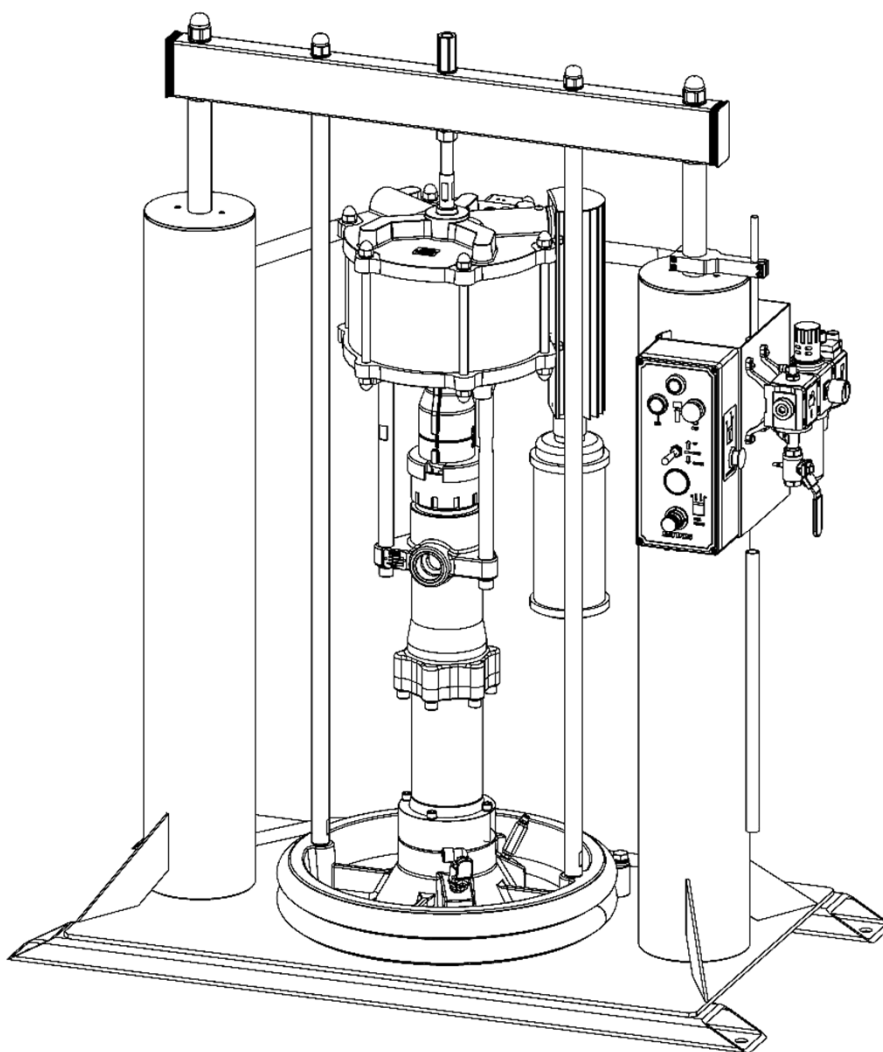


## Ø80mm Single & Dual Post Ram Unit Outfits



## ADDITIONAL RESOURCES

For additional information or copies of your service manual, please visit us online at:

[binks.com/en/library](https://binks.com/en/library)

Obey local or municipal regulations for product recycling and disposal.

<b>IMPORTANT! DO NOT DESTROY</b>
It is the Customer's responsibility to have all operators and service personnel read and understand this manual.
Contact your local Binks representative for additional copies of this manual.
<b>READ ALL INSTRUCTIONS BEFORE OPERATING THIS PRODUCT</b>

<b>Product Description / Object of Declaration:</b>	<b>SR &amp; DR RAM UNITS - DR120 (104094), DR20/30/60 (104102), SR20 (104110), DR205 (104094). DRX RAM UNITS - DRX60 (104156), DRX205 (104157), DRi205 (104163)</b>
<b>This Product is designed for use with:</b>	<b>Solvent &amp; Waterbased Materials</b>
<b>Suitable for use in hazardous area:</b>	
<b>Protection Level:</b>	<b>NOT ATEX</b>
<b>Notified body details and role:</b>	
<b>This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:</b>	<b>Binks U.K. Limited, Ringwood Road, Bournemouth, BH11 9LH. UK</b>
<b>Representative authorised to compile the technical file</b>	<b>President @. Binks France SAS 5 Place Pierre Semard, 94130 Nogent sur Marne , Paris, France</b>

## EU Declaration of Conformity



**This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:**

Machinery Directive 2006/42/EC

by complying with the following statutory documents and harmonised standards:

EN ISO 4414:2010 Pneumatic Fluid Power - General Rules and safety requirements

EN ISO 12100:2010 Safety of Machinery - General Principles for Design

EN 12621:2006+2010 Machinery for the supply and circulation of coating materials under pressure - Safety requirements

Providing all conditions of safe use / installation stated within the product manuals have been complied with and also installed in accordance with any applicable local codes of practice.

Signed for and on behalf of Binks  
U.K. Ltd:

Document Part No.  
. EN

F. A. Sutter

14/04/25

Executive President: Engineering and  
Operations, Shoreview, MN, 55126. USA

<b>Product Description / Object of Declaration:</b>	<b>SR &amp; DR RAM UNITS - DR120 (104094), DR20/30/60 (104102), SR20 (104110), DR205 (104094). DRX RAM UNITS - DRX60 (104156), DRX205 (104157), DRi205 (104163)</b>
<b>This Product is designed for use with:</b>	<b>Solvent &amp; Waterbased Materials</b>
<b>Suitable for use in hazardous area:</b>	
<b>Protection Level:</b>	<b>NOT ATEX</b>
<b>Approved body details and role:</b>	
<b>This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:</b>	<b>Binks U.K. Limited, Ringwood Road, Bournemouth, BH11 9LH. UK</b>

## UKCA Declaration of Conformity



**This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:**

Supply of Machinery (Safety) Regulations 2008

by complying with the following statutory documents and designated standards:

BS EN ISO 4414:2010 Pneumatic Fluid Power - General Rules and safety requirements

BS EN ISO 12100:2010 Safety of Machinery - General Principles for Design

BS EN 12621:2006+2010 Machinery for the supply and circulation of coating materials under pressure - Safety requirements

Providing all conditions of safe use / installation stated within the product manuals have been complied with and also installed in accordance with any applicable local codes of practice.



Signed for and on behalf of Binks  
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. EN

F. A. Sutter

14/04/25

Executive President: Engineering and  
Operations, Shoreview, MN, 55126. USA

 <b>WARNING</b>	 <b>CAUTION</b>	<b>NOTE</b>
Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.	Hazards or unsafe practices which could result in minor personal injury, product or property damage	Important installation, operation or maintenance information.

 **WARNING**

Read the following warnings before using this equipment.



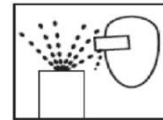
**READ THE MANUAL.** Before operating finishing equipment, read and understand all safety, operation and maintenance information provided in the operation manual.



**AUTOMATIC EQUIPMENT.** Automatic equipment may start suddenly without warning.



**WEAR SAFETY GLASSES.** Failure to wear safety glasses with side shields could result in serious eye injury or blindness.



**PROJECTILE HAZARD.** You may be injured by venting liquids or gases that are released under pressure, or flying debris.



**DE-ENERGIZE, DE-PRESSURISE, DISCONNECT AND LOCK OUT ALL POWER SOURCES DURING MAINTENANCE.** Failure to de-energize, disconnect and lock out all power supplies before performing equipment maintenance could cause serious injury or death.



**KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY.**



**NOISE LEVELS.** The A-weighted sound level of pumping and spray equipment may exceed 85 dB(A) depending on equipment settings. Actual noise levels are available on request. It is recommended that ear protection is worn at all times while equipment is in use.



**PRESSURE RELIEF PROCEDURE.** Always follow the pressure relief procedure in the equipment instruction manual.



**INSPECT THE EQUIPMENT DAILY.** Inspect the equipment for worn or broken parts on a daily basis. Do not operate the equipment if you are uncertain about its condition.



**OPERATOR TRAINING.** All personnel must be trained before operating finishing equipment.



**EQUIPMENT MISUSE HAZARD.** Equipment misuse can cause the equipment to rupture, malfunction or start unexpectedly and result in serious injury.



**PACEMAKER WARNING.** You are in the presence of magnetic fields which may interfere with the operation of certain pacemakers.



**HIGH PRESSURE CONSIDERATION.** High pressure can cause serious injury. Relieve all pressure before servicing. Spray from the gun, hose leaks or ruptured components can inject fluid into your body and cause extremely serious injury.



**KEEP EQUIPMENT GUARDS IN PLACE.** Do not operate the equipment if the safety devices have been removed.



**STATIC CHARGE.** Fluid may develop a static charge that must be dissipated through proper grounding of the equipment, objects to be sprayed and all other electrically conductive objects in the dispensing area. Improper grounding or sparks can cause a hazardous condition and result in fire, explosion or electric shock and other serious injury.



**NEVER MODIFY THE EQUIPMENT.** Do not modify the equipment unless the manufacturer provides written approval.



**PROP 65 WARNING.** WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.



**PINCH POINT HAZARD.** Moving parts can crush and cut. Pinch points are any areas where there are moving parts.

**IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT.**

## Specification

Feature			Remarks
Down thrust at 6 bar air pressure	SR20	2.5kN / 562 lbf	
	DR20/30/60	5kN / 1124 lbf	
	DR120	5kN / 1124 lbf	
	DR205 / DF205	5kN / 1124 lbf	
Maximum Working Air Pressure		7 bar / 101 psi	
Air Inlet		½" BSP F	
Air Quality		ISO 8573-1 Class 5/5/4	Dirt 40 Microns Water +7°C @ 7 bar Oil 25mg/m <sup>3</sup>
Ram Stroke	SR20	420mm / 16.5"	
	DR20/30/60	688mm / 27"	
	DR120	960mm / 37.8"	
	DR205 / DF205		
Unit Height - Fully Extended (Without Pumps)	SR20	1255mm / 49.5"	
	DR20/30/60	1750mm / 69"	
	DR120	2550mm / 100" max.	
	DR205 / DF205		
Wiper Ring Material	SR20	EPDM / PU	
	DR20/30/60		
	DR120	EPDM	
	DR205		
	DF205		PU
Weight without Pump	SR20	55kg / 121 lbs	
	DR20/30/60	130kg / 286 lbs	
	DR120	206kg / 455 lbs	
	DR205 / DF205	212kg / 466 lbs	

## General Description

Ram Unit Outfits are designed to ensure correct 'priming' of the pump fluid section inlet and to prevent 'cavitation' when high viscosity materials are pumped. The Ram units will accommodate industry standard barrels of 20 & 205L.

The outfits comprise of Ram Unit, Pump and Follower plate assembly.

The Follower plate is designed to accept both chop check or ball check pumps.

The Ram plate has two seals which accurately fit the inside of the barrel, as material is used the ram plate descends, cleaning the sides of the barrel, reducing wastage to a minimum.

A pneumatic control box (see page 36) with necessary Ram control features.

- Raise and lower the ram plate.
- A 'release valve' to separate the ram from the empty container.
- Air pressure regulator to control Downforce pressure.
- Pump Stop / Start.

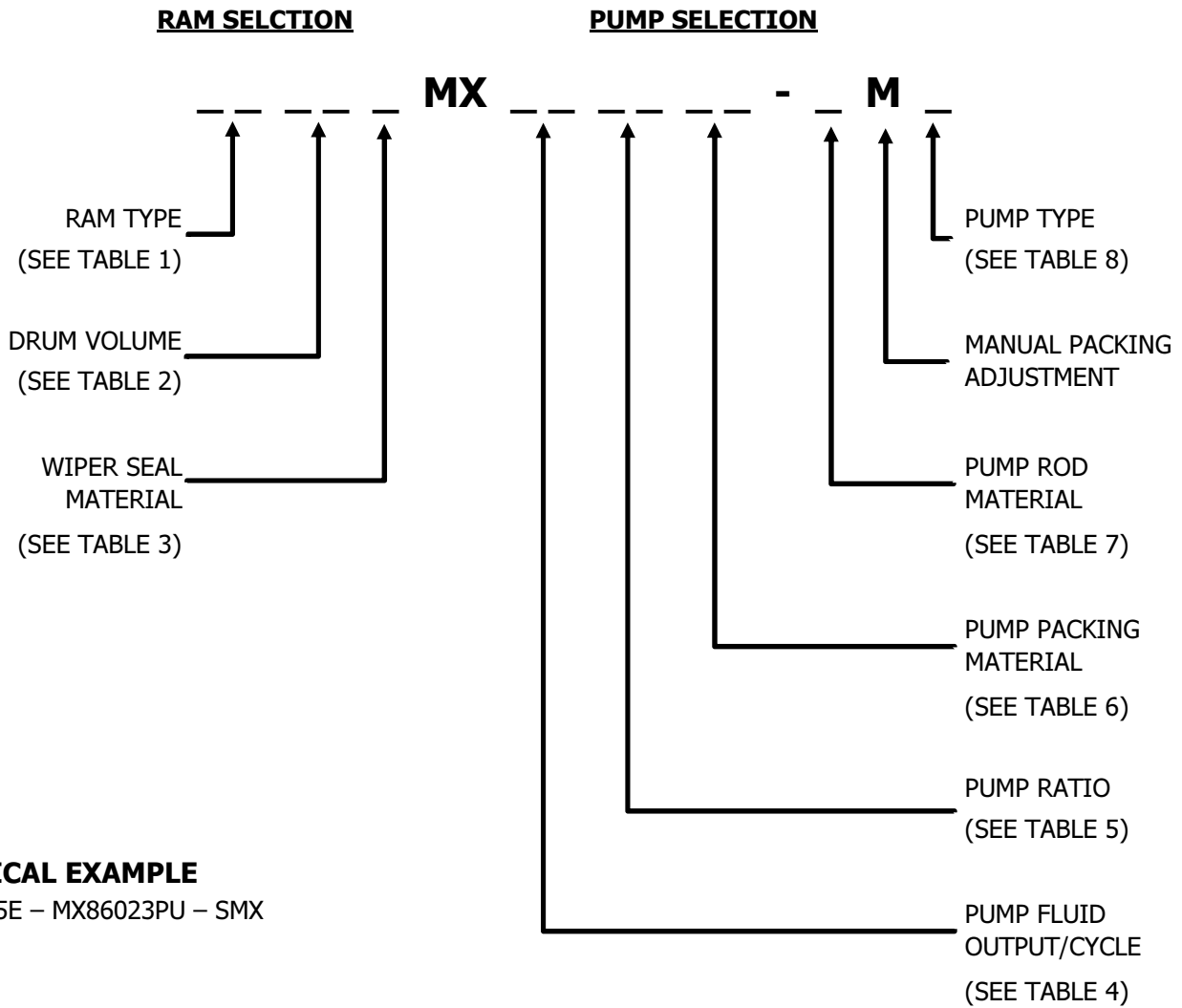
A height adjustable trip valve assembly (see page 38) is also included as standard to stop the pump when the bottom of the container is reached.

The pump air regulator unit (see page 37) is supplied with hose connection to the air motor.

An option is available to provide automatic 'changeover' when using two Ram Units in Duty / Standby mode.

# Model Selection

## Ram Unit Outfit Selection Guide



### TYPICAL EXAMPLE

DR205E – MX86023PU – SMX

**TABLE 1**

CODE	DESCRIPTION
<b>SR</b>	Single Post Ram (Ø80mm)
<b>DR</b>	Dual Post Ram (Ø80mm)
<b>DF</b>	Dual Post Follower (Ø80mm) ST ST Plate

**TABLE 2**

CODE	DESCRIPTION	Table 1 Ref.		
		SR	DR	DF
<b>20</b>	20L / 5 Gallon Drum	✓	✓	
<b>30</b>	30L / 7.5 Gallon Drum		✓	
<b>60</b>	60L / 15 Gallon Drum		✓	
<b>120</b>	120L / 30 Gallon Drum		✓	
<b>205</b>	205L / 55 Gallon Drum		✓	✓

**TABLE 3**

CODE	DESCRIPTION	Table 2 Ref.				
		20	30	60	120	205
E	EPDM (Double Seal)	✓	✓	✓	✓	✓
P	Polyurethane (Double Seal)	✓	✓	✓		
F	EPDM (Single Seal)	✓				
Q	Polyurethane (Single Seal)	✓				

**TABLE 4 - Chop Check Pumps**

CODE	DESCRIPTION	SR Rams	DR Rams					DF Rams
		20	20	30	60	120	205	205
68	68 cc/cycle	✓	✓	✓	✓	✓	✓	
115	115 cc/cycle	✓	✓	✓	✓	✓	✓	✓
200	200 cc/cycle		✓	✓	✓	✓	✓	✓
420	420 cc/cycle					✓	✓	✓
860	860 cc/cycle					✓	✓	✓

**TABLE 4 - Ball Check Pumps**

CODE	DESCRIPTION	SR Rams	DR Rams					DF Rams
		20	20	30	60	120	205	205
122	122 cc/cycle	✓	✓	✓	✓	✓	✓	✓
190	190 cc/cycle		✓	✓	✓	✓	✓	✓
220	220 cc/cycle		✓	✓	✓	✓	✓	✓
440	440 cc/cycle					✓	✓	✓
880	880 cc/cycle					✓	✓	✓

**TABLE 5 - Chop Check Pumps**

CODE	DESCRIPTION	Table 4 Ref.				
		68	115	200	420	860
05	5:1 Pump Ratio	✓				
12	12:1 Pump Ratio	✓				
15	15:1 Pump Ratio					✓
18	18:1 Pump Ratio				✓	
23	23:1 Pump Ratio					✓
24	24:1 Pump Ratio			✓		
30	30:1 Pump Ratio				✓	
33	33:1 Pump Ratio	✓				
39	39:1 Pump Ratio			✓		
43	43:1 Pump Ratio		✓			
46	46:1 Pump Ratio				✓	
66	66:1 Pump Ratio			✓		
68	68:1 Pump Ratio		✓			

**TABLE 5 - Ball Check Pumps**

CODE	DESCRIPTION	Table 4 Ref.				
		112	190	220	440	880
15	15:1 Pump Ratio					✓
18	18:1 Pump Ratio				✓	
22	22:1 Pump Ratio			✓		
23	23:1 Pump Ratio					✓
30	30:1 Pump Ratio				✓	
35	35:1 Pump Ratio)			✓		
41	41:1 Pump Ratio	✓	✓			
46	46:1 Pump Ratio				✓	
60	60:1 Pump Ratio			✓		
64	64:1 Pump Ratio	✓				
70	70:1 Pump Ratio		✓			

**TABLE 6**

CODE	DESCRIPTION
PU	PTFE & UHMWPE

**TABLE 7**

CODE	DESCRIPTION	Table 4 Ref.									
		Chop Check Pumps					Ball Check Pumps				
		68	115	200	420	860	122	190	220	440	880
C	Nitrided Carbon Steel			✓	✓	✓		✓	✓	✓	✓
S	Ceramic Coated Stainless Steel	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**TABLE 8**

CODE	DESCRIPTION	Table 4 Ref.									
		Chop Check Pumps					Ball Check Pumps				
		68	115	200	420	860	122	190	220	440	880
B	Ram Mount Ball Pump						✓	✓	✓	✓	✓
X	Ram Mount Chop Check Pump	✓	✓	✓	✓	✓					

## SR20 - Models

### 104110 - Installation

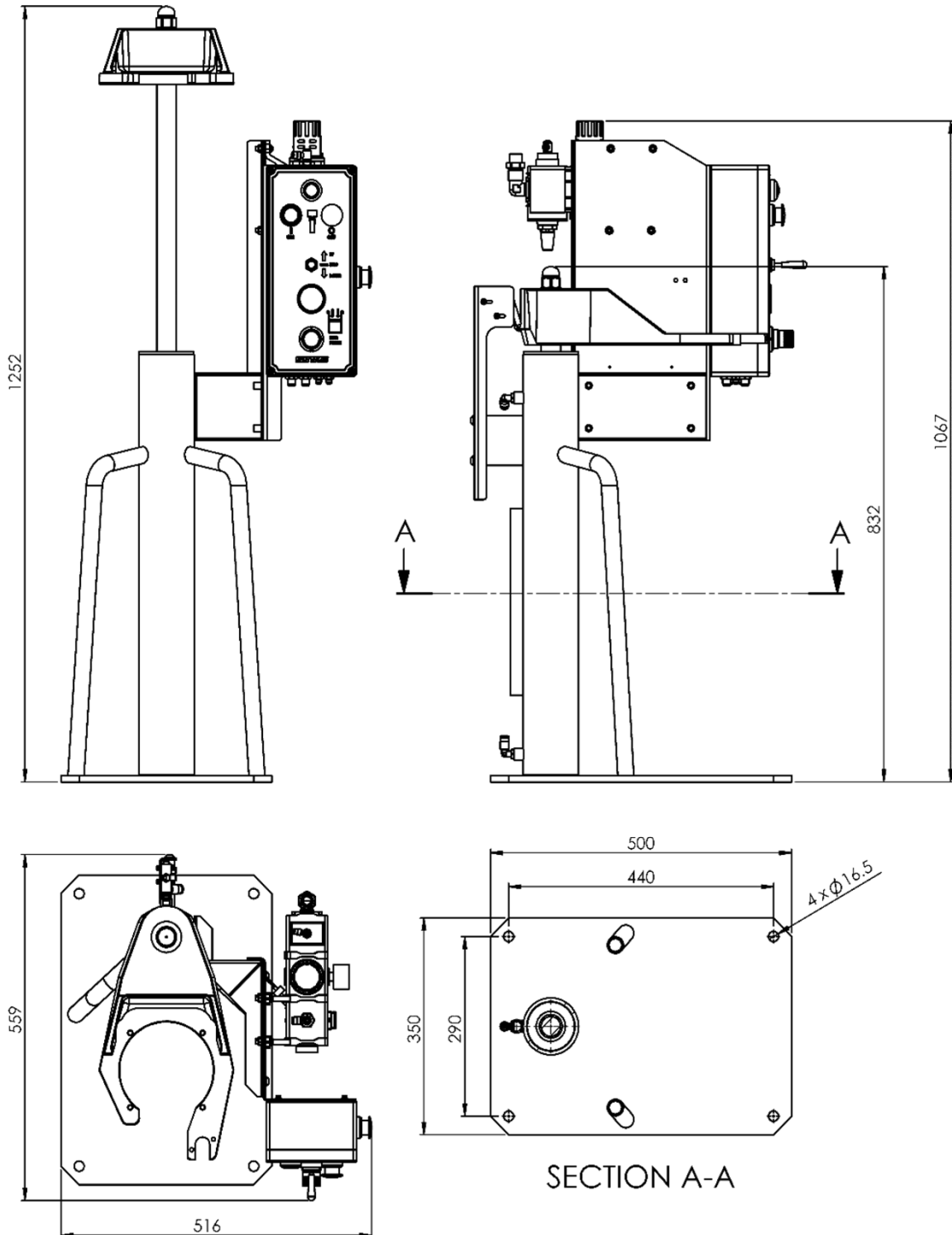
The ram plate base should be mounted on a stable and level floor.

The standard ram plate has 4 off - holes  $\text{\O}16.5\text{mm}$  to enable the base to be securely fixed to the floor.

Suitable floor fixing 'rawlbolts' should be used which are designed to suit the floor material.

Base plate = 500mm x 350mm. Mounting holes = 440mm x 290mm

A compressed air supply is connected to the  $\frac{1}{2}$ " BSP F connection to control the lift and lowering of the air cylinders and supply the pump.



## Operation Instructions

### Setting up ram trip valve

1. Make sure that the air to the pump is turned off by fully unwinding the regulator on 104098.
2. Press the on (green) button on 104098. This indicator should now be green.
3. Place an empty drum under the ram plate. With the ram pressure set at 2 bar lower the ram into the drum until it has made contact with the bottom of the drum. When the valve is tripped the indicator will switch to red (meaning pump off).
4. Set the trip valve so that it has just tripped, by between 5 – 10mm. Test this a number of times to make sure that the valve trips before the ram plate contacts the bottom of the drum.
5. If different drums are to be used then checks should be made to make sure that the valve is operated.

### Setting up ram force for different materials

1. Place a fresh drum of material underneath the ram plate.
2. Open primer screw assembly (193754).
3. Set the ram force to 2 bar.
4. Select the Up / Stop / Down controller to **Down**.
5. A slight delay will occur before the ram starts to move. This is to allow air to exhaust from the 'up' side of the cylinder.
6. Check that the ram is going down squarely into the drum.
7. As the ram plate goes into the drum, air will be pushed out of the vent.
8. When material starts to come out of the vent, close the primer screw assembly.
9. Operate pump and system under normal operating conditions. At all times checking the pump for cavitation. On very thick, non-flowing materials pressures up to 5 bar may be required in order to prime the pump correctly. However high ram pressures must not be used on light free-flowing materials as leaks around the ram seals could develop.
10. When the air pressure is set use the "Raising the ram from a drum" procedure and remove drum from the unit.
11. It is now time to set the speed of the "Up and Down" motion of the ram unit.
12. To adjust the speed of the "Up" motion screw in restrictor all the way then back out while testing up speed until desired speed is achieved.
13. Remove the cover from the 104097 control box mounted on the ram unit leaving the hoses connected. Operate the "up / down" valve and at the same time screw in or out the control valve (silencer / speed controller).
14. Do not use the pressure regulator to control the speed of the unit, as it will give an uneven movement.

## Operation

### Lowering the ram onto material

1. Place a fresh drum of material underneath the ram plate.
2. Open the ram primer screw assembly.
3. Select the Up / Stop / Down controller to **down**.
4. Make sure that the ram force is to the correct pressure. ( see Setting up ram pressure ).
5. A slight delay will occur before the ram starts to move. This is to allow air to exhaust from the 'up' side of the cylinders.
6. Check that the ram is going down squarely into the drum.
7. As the ram plate goes into the drum, air will be pushed out of the vent.
8. When material starts to come out of the vent, close the primer screw assembly.
9. The ram is now ready to use.

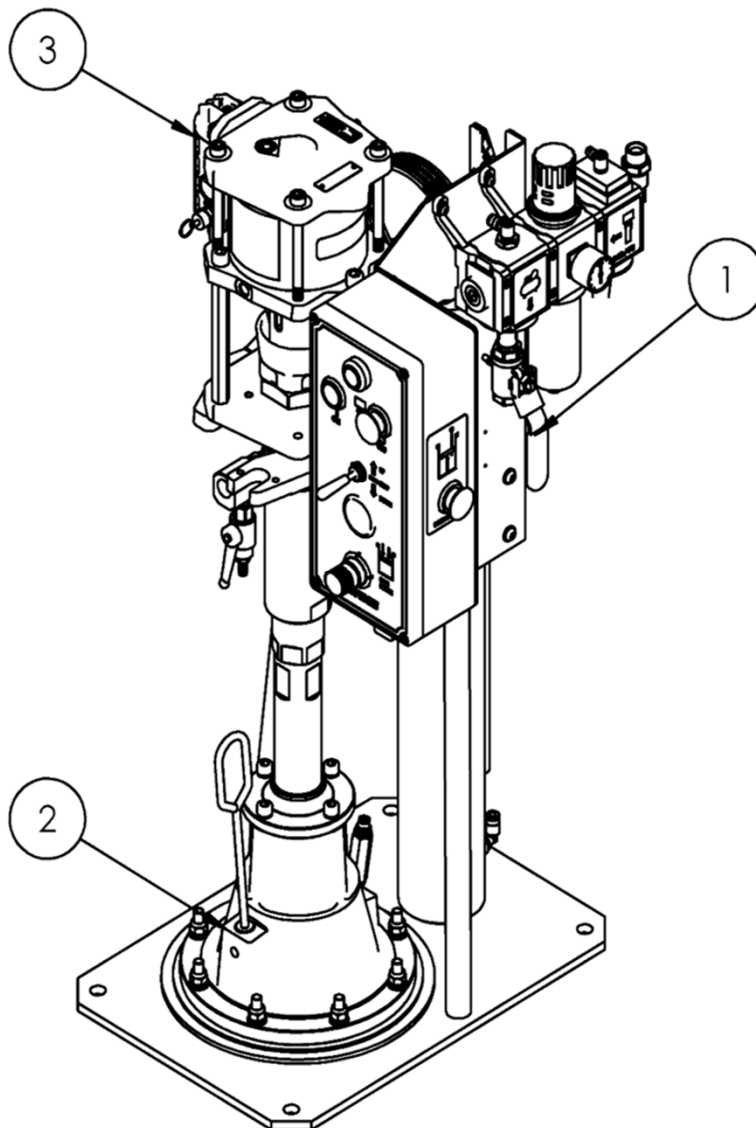
### Raising the ram from a drum

1. Make sure that the pump is turned **off**, air pressure relieved and pump pressure also relieved.
2. Select the Up / Stop / Down controller to **up**.
3. As the ram starts to move inject small bursts of compressed air by pressing the Drum Release button mounted on the side of the unit. This will slowly push the drum off the ram.
4. Be very carefully not to inject too much air, as air can escape between the ram plate seal and the drum. This is not dangerous but can make an unnecessary mess that requires cleaning.

## SR20 Ram Unit Outfit Parts Lists

Item	Part No.	Description	Qty.	Remarks
1	104110	20L RAM ASSEMBLY	1	
2	193916	20L RAM PLATE ASSEMBLY – PU	1	Double Seal
	193994	20L RAM PLATE ASSEMBLY - EPDM	1	Double Seal
	194491	20L RAM PLATE ASSEMBLY – PU	1	Single Seal
	194480	20L RAM PLATE ASSEMBLY - EPDM	1	Single Seal
3	MX.....	PUMP ASSEMBLY – SEE SELECTION TABLE	1	
4	193997	CONNECTION KIT – NOT SHOWN	1	MX68 PUMPS
5	194258	CONNECTION KIT – NOT SHOWN	1	MX11543, MX12241
6	194259	CONNECTION KIT – NOT SHOWN	1	MX12264, MX11568

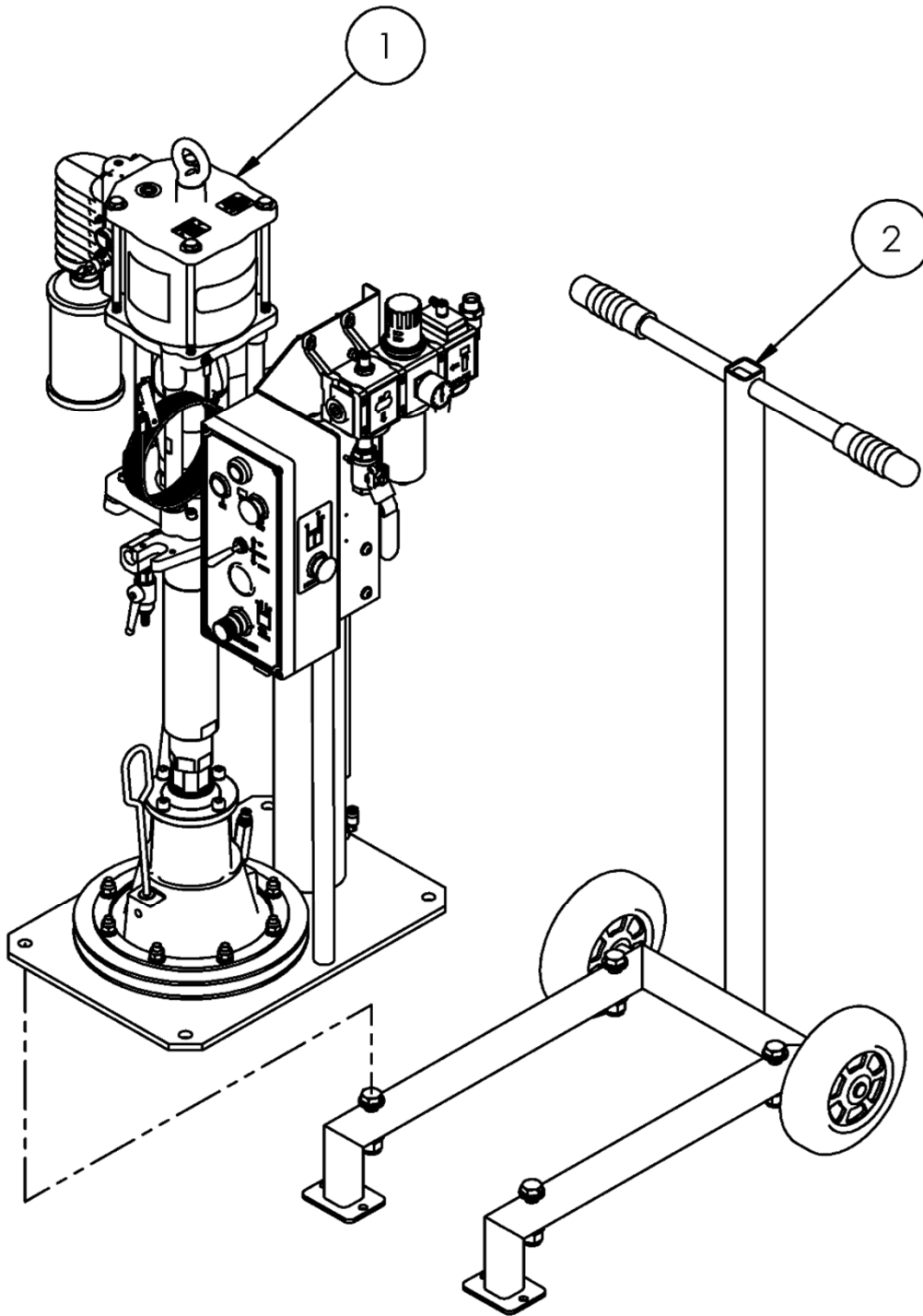
## SR20 Ram Unit Outfit Assemblies



## Cart Mounted SR20 Ram Unit Outfit Parts List

Item	Part No.	Description	Qty.	Remarks
1	SR20x-MX...	20L RAM UNIT OUTFIT	1	
2	104128	CART KIT	1	

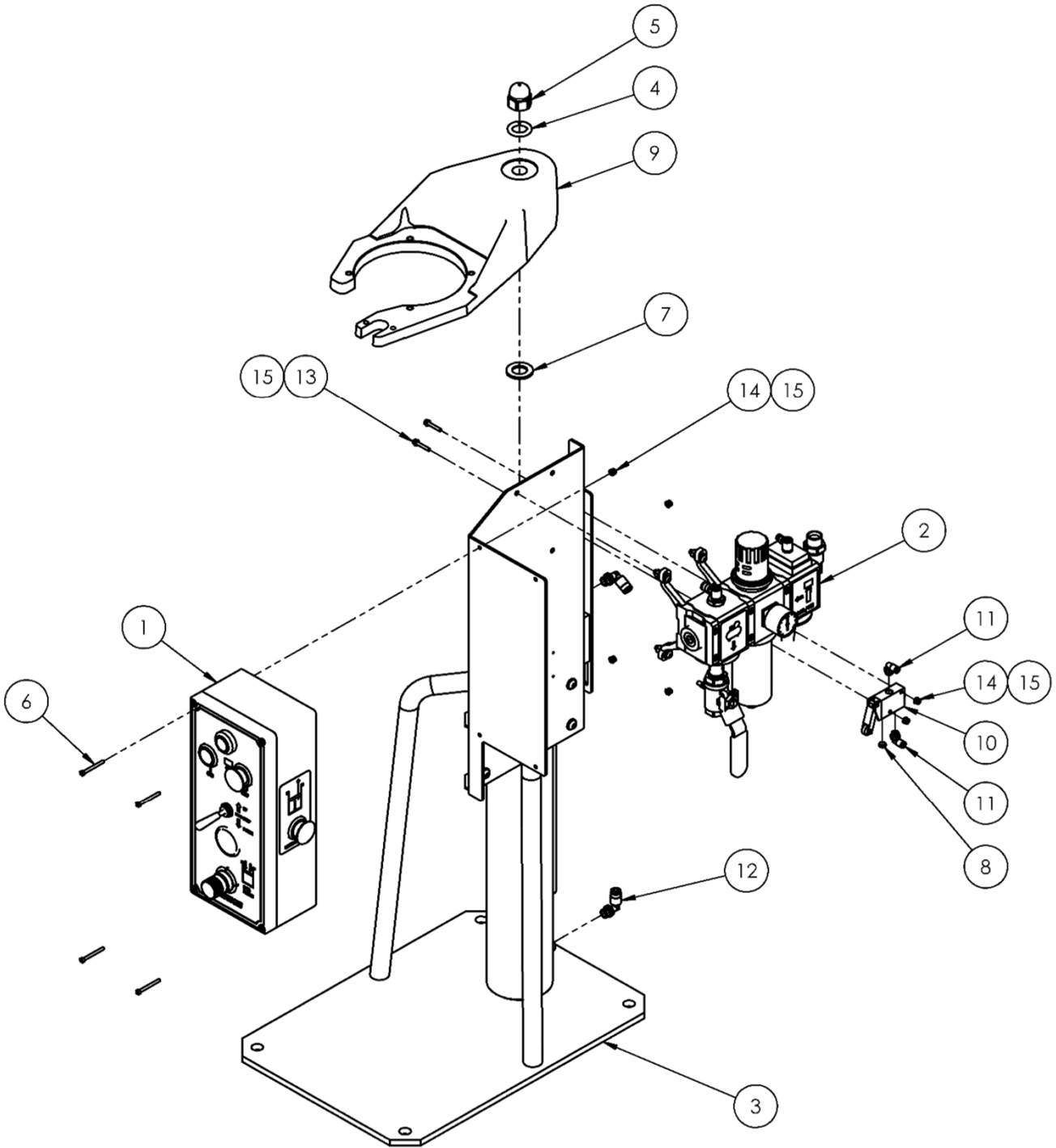
## Cart Mounted SR20 Ram Unit Outfit Assembly



## 104110 - SR20 Ram Unit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104097	RAM CONTROL BOX	1	
2	104098	RAM AIR REG SETUP	1	
3	104107	BARE 20L RAM UNIT	1	
4	165139	M20 SPRING WASHER	1	
5	177040	M20 DOME NUT	1	
6	177041	M4 x 45 CAP HD SCREW	4	
7	177054	M20 PLAIN WASHER	1	
8	192799	VENT PLUG	1	
9	193863	BRACKET MACHINING	1	
10	193907	TRIP ROD 3/2 VALVE	1	
11	193908	¼" - Ø4 PUSH IN ELBOW	2	
12	193943	¼" - Ø6 PUSH IN ELBOW	2	
13	DVX-27	M4 x 25 CAP HD SCREW	2	
14	DVX-30	M4 NYLOC NUT	6	
15	DVX-31	M4 WASHER	8	
16	170244	Ø6 x 4 PU HOSE - BLACK	2m	NOT SHOWN
17	170245	Ø4 x 2.5 PU HOSE - BLACK	2m	NOT SHOWN

# 104110 - SR20 Unit Ram Assembly



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## DR20, 30, 60, 120, 205 & DF205 Models

### Installation

The ram plate base should be mounted on a stable and level floor.

The standard ram plate has 4 off - holes Ø16.5mm to enable the base to be securely fixed to the floor. Suitable floor fixing 'rawlbolts' should be used which are designed to suit the floor material.

#### **104102 -DR20, 30, 60**

Base plate = 710mm x 460mm.

Mounting holes = 640mm x 390mm

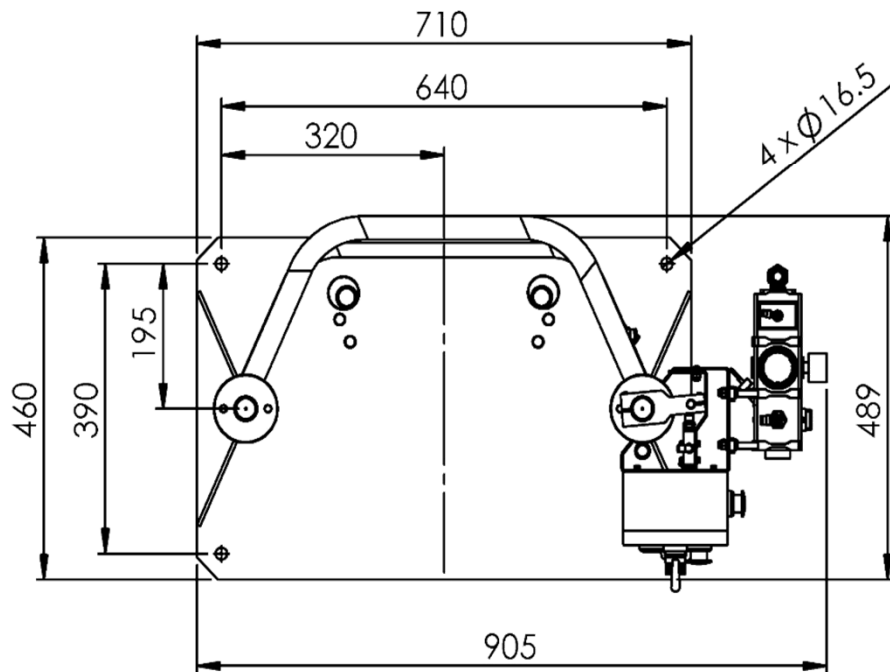
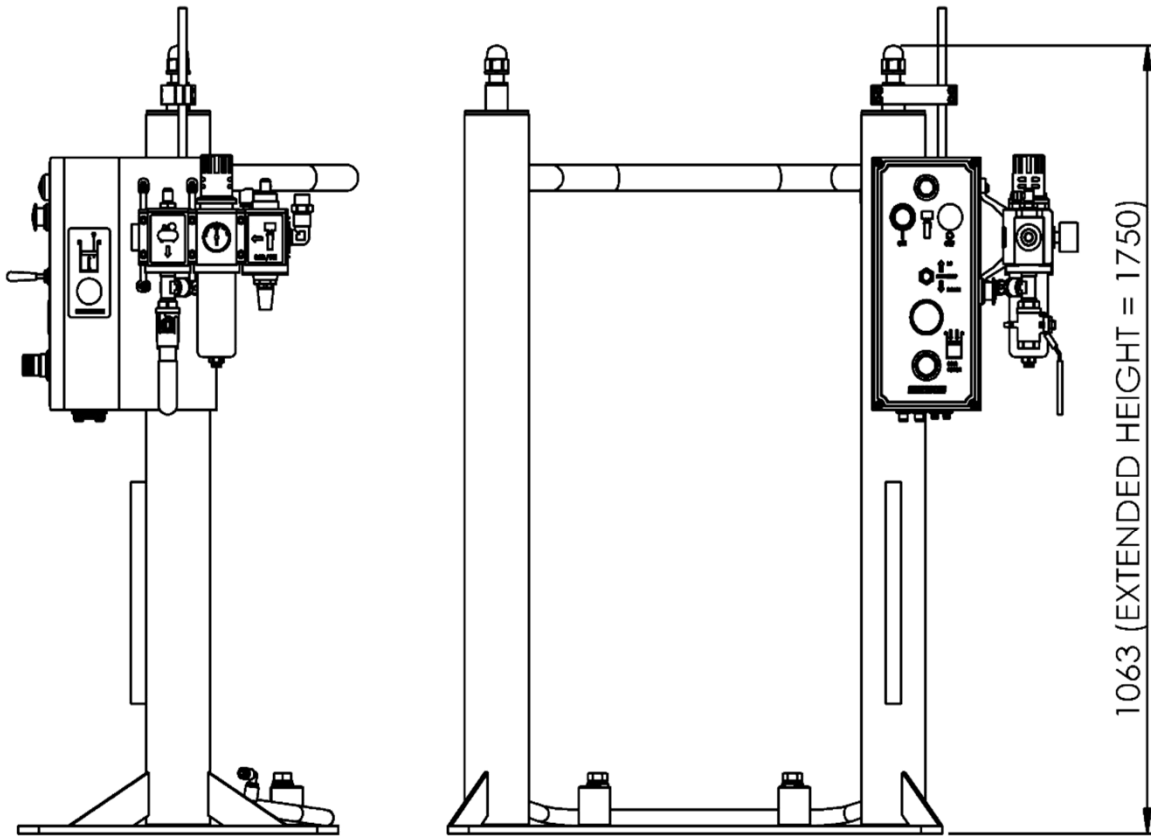
#### **104106 – DR120, 104094 – DR205 & 104173 – DF205**

Base plate = 915mm x 600mm.

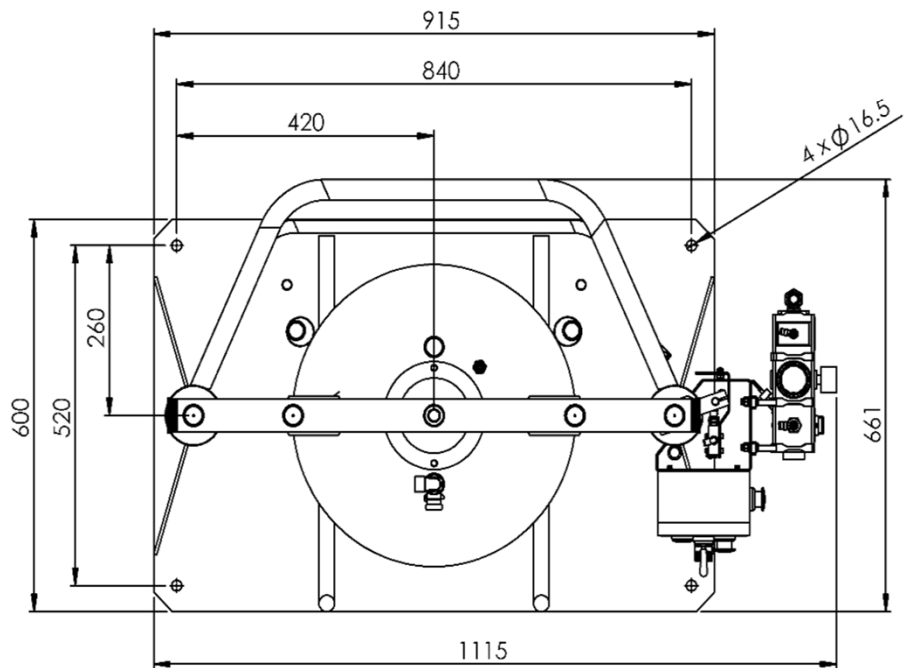
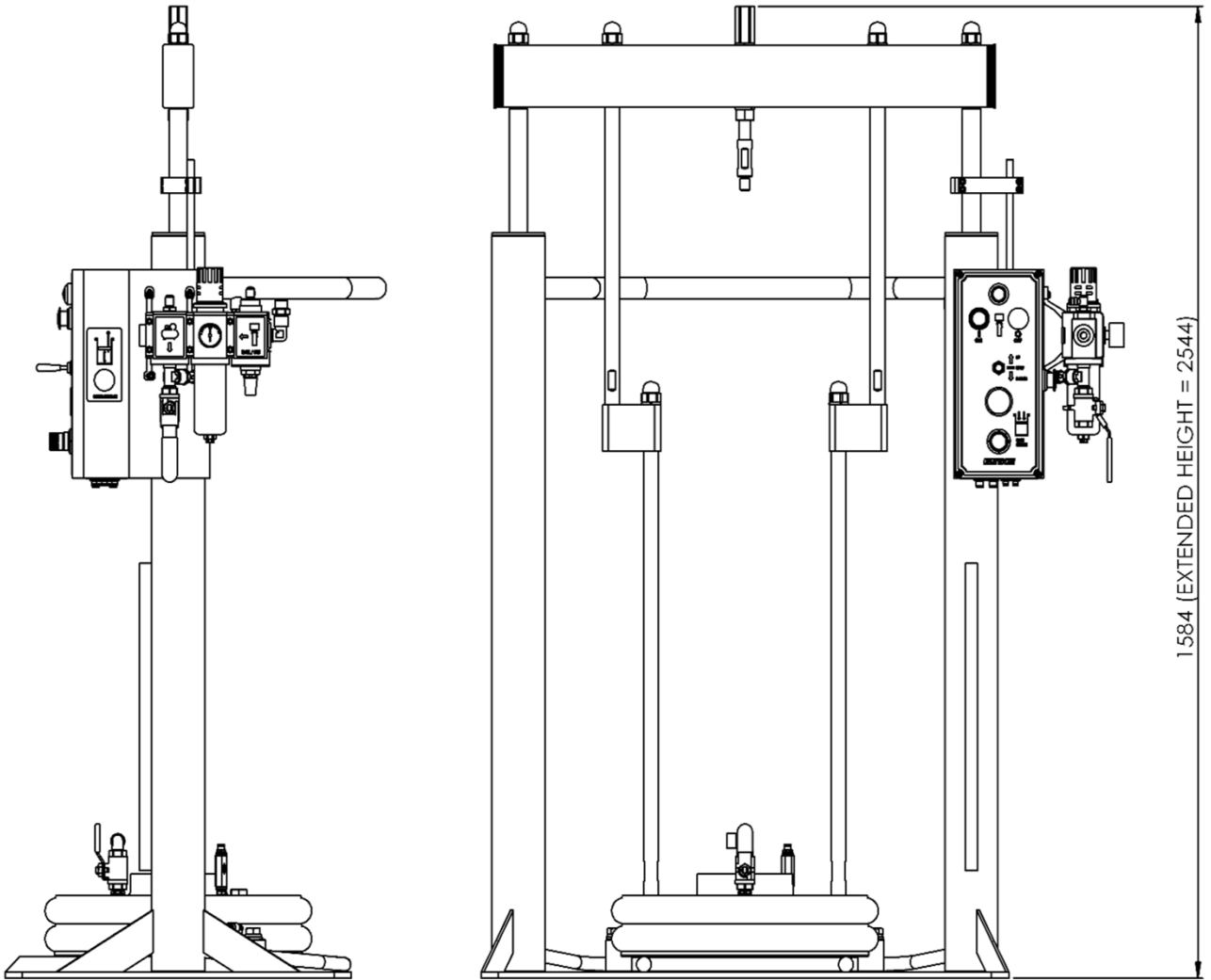
Mounting holes = 840mm x 520mm

A compressed air supply is connected to the ½" BSP F connection to control the lift and lowering of the air cylinders and supply the pump.

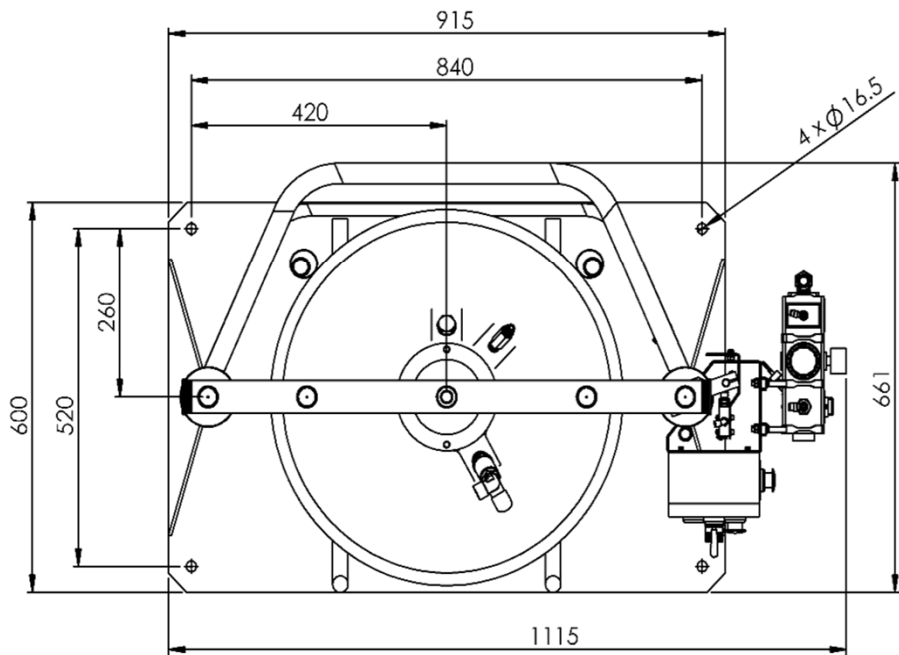
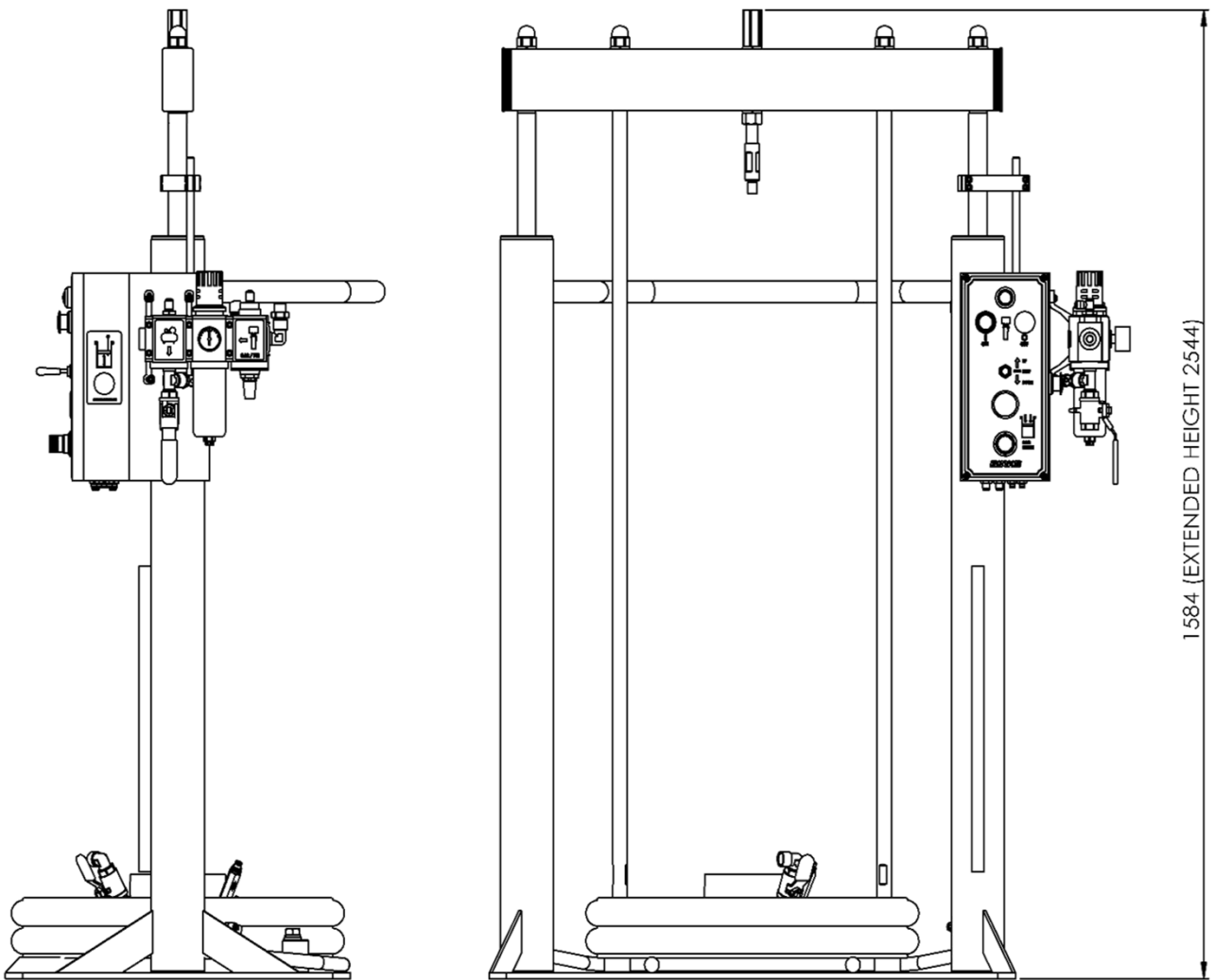
# 104102 - DR20/30/60 Installation



# 104106 - DR120 Installation



# 104094 / 104173 – DR/F205 Installation



## Operation Instructions

### Setting up ram trip valve

1. Make sure that the air to the pump is turned off by fully unwinding the regulator on 104098.
2. Press the on (green) button on 104098. This indicator should now be green.
3. Place an empty drum under the ram plate. With the ram pressure set at 2 bar lower the ram into the drum until it has made contact with the bottom of the drum. When the valve is tripped the indicator will switch to red (meaning pump off).
4. Set the trip valve so that it has just tripped, by between 5 – 10mm. Test this a number of times to make sure that the valve trips before the ram plate contacts the bottom of the drum.
5. If different drums are to be used then checks should be made to make sure that the valve is operated.

### Setting up ram force for different materials

1. Place a fresh drum of material underneath the ram plate.
2. Open the ram plate primer.
3. Set the ram force to 2 bar.
4. Select the Up / Stop / Down controller to **Down**.
5. A slight delay will occur before the ram starts to move. This is to allow air to exhaust from the 'up' side of the cylinder.
6. Check that the ram is going down squarely into the drum.
7. As the ram plate goes into the drum, air will be pushed out of the vent.
8. When material starts to come out of the vent, close the primer screw assembly.
9. Operate pump and system under normal operating conditions. At all times checking the pump for cavitation. On very thick, non-flowing materials pressures up to 5 bar may be required in order to prime the pump correctly. However high ram pressures must not be used on light free-flowing materials as leaks around the ram seals could develop.
10. When the air pressure is set use the "Raising the ram from a drum" procedure and remove drum from the unit.
11. It is now time to set the speed of the "Up and Down" motion of the ram unit.
12. Remove the cover from the 104097 control box mounted on the ram unit leaving the hoses connected. Operate the "up / down" valve and at the same time screw in or out the control valve (silencer / speed controller). The motion needs to slow enough so that removing an empty drum can be one smooth operation, about 1 full stroke in 30 seconds.
13. Do not use the pressure regulator to control the speed of the unit, as it will give an uneven movement.

## Operation

### Lowering the ram onto material

1. Place a fresh drum of material underneath the ram plate.
2. Open the ram primer screw assembly.
3. Select the Up / Stop / Down controller to **down**.
4. Make sure that the ram force is to the correct pressure. (see Setting up ram pressure).
5. A slight delay will occur before the ram starts to move. This is to allow air to exhaust from the 'up' side of the cylinders.
6. Check that the ram is going down squarely into the drum.
7. As the ram plate goes into the drum, air will be pushed out of the vent.
8. When material starts to come out of the vent, close the primer screw assembly.
9. The ram is now ready to use.

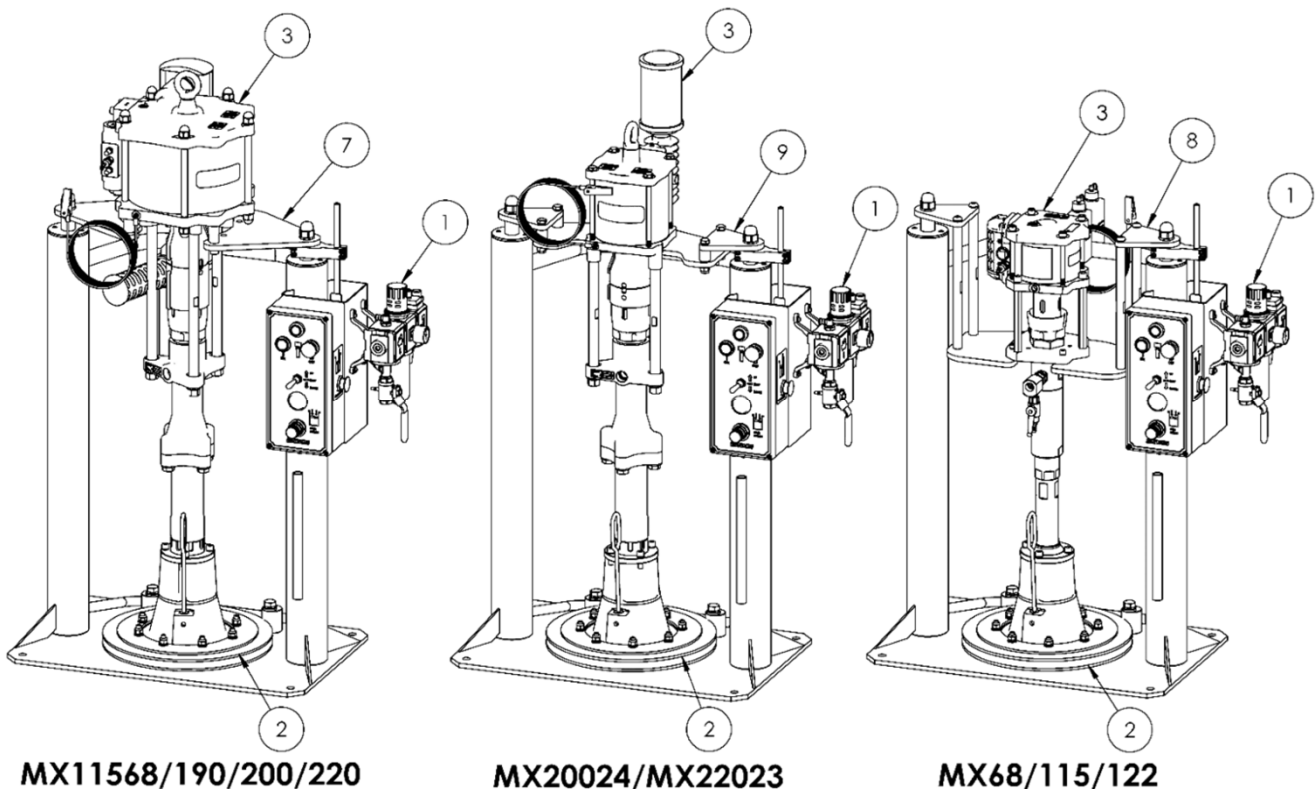
### Raising the ram from a drum

1. Make sure that the pump is turned **off**, air pressure relieved and pump pressure also relieved.
2. Select the Up / Stop / Down controller to **up**.
3. As the ram starts to move inject small bursts of compressed air by pressing the Drum Release button mounted on the side of the unit. This will slowly push the drum off the ram.
4. Be very carefully not to inject too much air, as air can escape between the ram plate seal and the drum. This is not dangerous but can make an unnecessary mess that requires cleaning.

## DR20/30/60 Ram Unit Outfits Parts List

Item	Part No.	Description	Qty.	Remarks
1	104102	60L RAM ASSEMBLY	1	
2	193916	20L RAM PLATE ASSEMBLY – PU	1	
	193994	20L RAM PLATE ASSEMBLY - EPDM	1	
	193917	30L RAM PLATE ASSEMBLY – PU	1	
	193995	30L RAM PLATE ASSEMBLY - EPDM	1	
	193918	60L RAM PLATE ASSEMBLY – PU	1	
	193996	60L RAM PLATE ASSEMBLY - EPDM	1	
3	MX.....	PUMP ASSEMBLY – SEE SELECTION TABLE	1	
4	193998	CONNECTION KIT – NOT SHOWN	1	MX68 PUMPS
5	193999	CONNECTION KIT – NOT SHOWN	1	MX11568, 190/200/220 MODELS
6	194268	CONNECTION KIT – NOT SHOWN	1	MX11543, MX12241
7	193737	MOUNTING PLATE	1	MX11568, 190/200/220 MODELS
8	194005	MOUNTING PLATE ASSEMBLY	1	68/115/122 MODELS
9	194265	MOUNTING PLATE ASSEMBLY	1	MX20024, MX22023

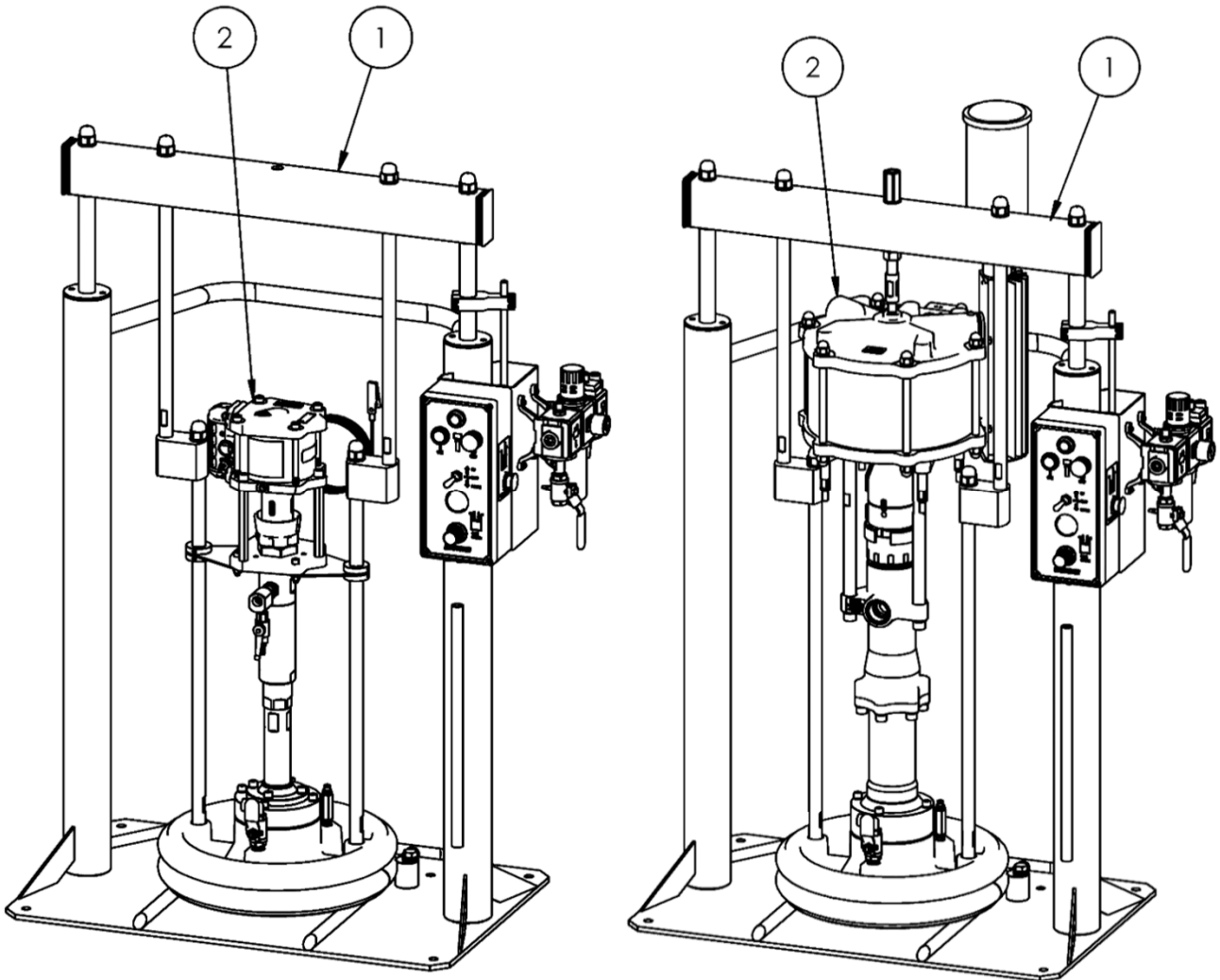
## DR20/30/60 Ram Unit Outfit Assemblies



## DR120 Outfit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104106	120L RAM ASSEMBLY	1	
2	MX.....	PUMP ASSEMBLY – SEE SELECTION TABLE	1	
3	194476	CONNECTION KIT – NOT SHOWN	1	68/115/122 MODELS
4	194000	CONNECTION KIT – NOT SHOWN	1	190/200/220 MODELS
5	194001	CONNECTION KIT – NOT SHOWN	1	420/440/860/880
6	194477	CONNECTION KIT – NOT SHOWN	1	MX11543 / MX12241
7	194478	CONNECTION KIT – NOT SHOWN	1	MX11568
8	194257	CONNECTION KIT – NOT SHOWN	1	MX20024 / MX22023

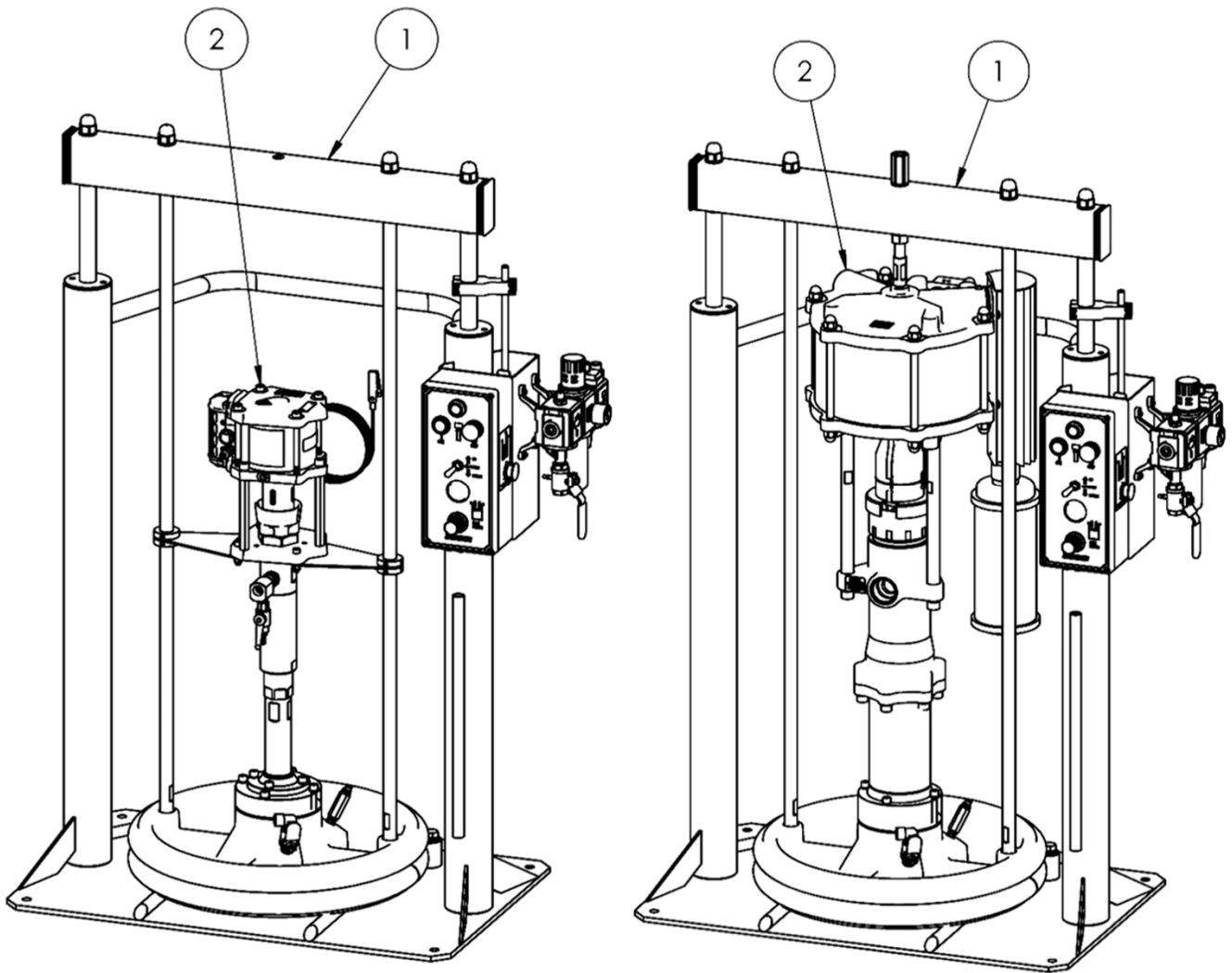
## DR120 Outfit Assemblies



## DR205 Ram Unit Outfit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104094	205L RAM ASSEMBLY	1	
2	MX.....	PUMP ASSEMBLY – SEE SELECTION TABLE	1	
3	194264	CONNECTION KIT – NOT SHOWN	1	68/115/122 MODELS
4	194000	CONNECTION KIT – NOT SHOWN	1	190/200/220 MODELS
5	194001	CONNECTION KIT – NOT SHOWN	1	420/440/860/880
6	194263	CONNECTION KIT – NOT SHOWN	1	MX11543 / MX12241
7	194253	CONNECTION KIT – NOT SHOWN	1	MX11568
8	194257	CONNECTION KIT – NOT SHOWN	1	MX20024 / MX22023

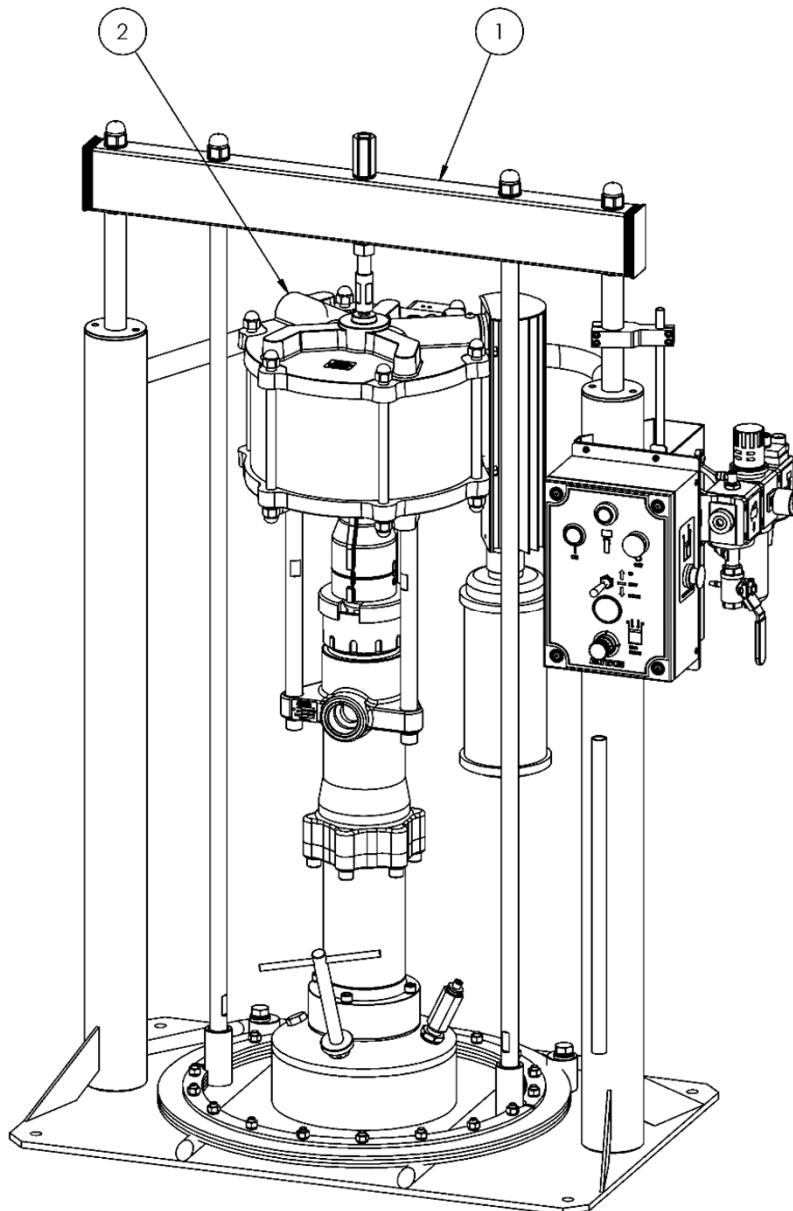
## DR205 Ram Unit Outfit Assemblies



## DF205 Ram Unit Outfit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104173	205L RAM ASSEMBLY	1	
2	MX.....	PUMP ASSEMBLY – SEE SELECTION TABLE	1	
3	194264	CONNECTION KIT – NOT SHOWN	1	68/115/122 MODELS
4	194000	CONNECTION KIT – NOT SHOWN	1	190/200/220 MODELS
5	194001	CONNECTION KIT – NOT SHOWN	1	420/440/860/880
6	194263	CONNECTION KIT – NOT SHOWN	1	MX11543 / MX12241
7	194253	CONNECTION KIT – NOT SHOWN	1	MX11568
8	194257	CONNECTION KIT – NOT SHOWN	1	MX20024 / MX22023

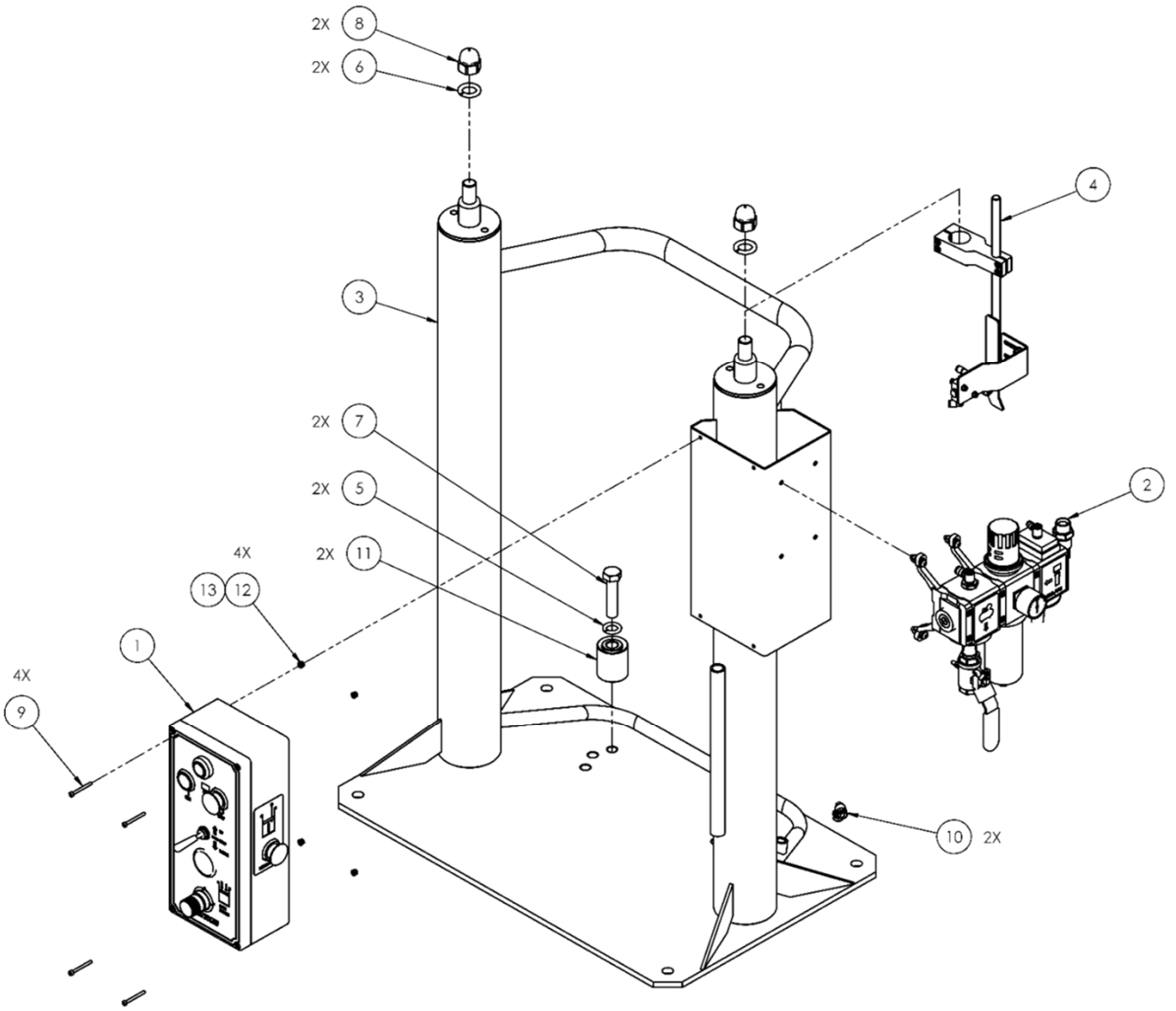
## DF205 Ram Unit Outfit Assemblies



## 104102 - DR20/30/60 Ram Unit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104097	RAM CONTROL BOX	1	
2	104098	RAM AIR REG SETUP	1	
3	104104	60L BARE RAM UNIT	1	
4	104105	TRIP ROD ASSEMBLY	1	
5	165100	M16 SPRING WASHER	2	
6	165139	M20 SPRING WASHER	2	
7	165373	M16 x 70 HEX HD BOLT	2	
8	177040	M20 DOME NUT - PLATED	2	
9	177041	M4 x 45 CAP HD SCREW	4	
10	193943	¼" - Ø6 PUSH IN ELBOW	2	
11	194013	DRUM STOP	2	
12	DVX-30	M4 NYLOC NUT	4	
13	DVX-31	M4 WASHER	4	
14	170244	Ø6 x 4 PU HOSE - BLACK	2m	NOT SHOWN
15	170245	Ø4 x 2.5 PU HOSE - BLACK	2m	NOT SHOWN

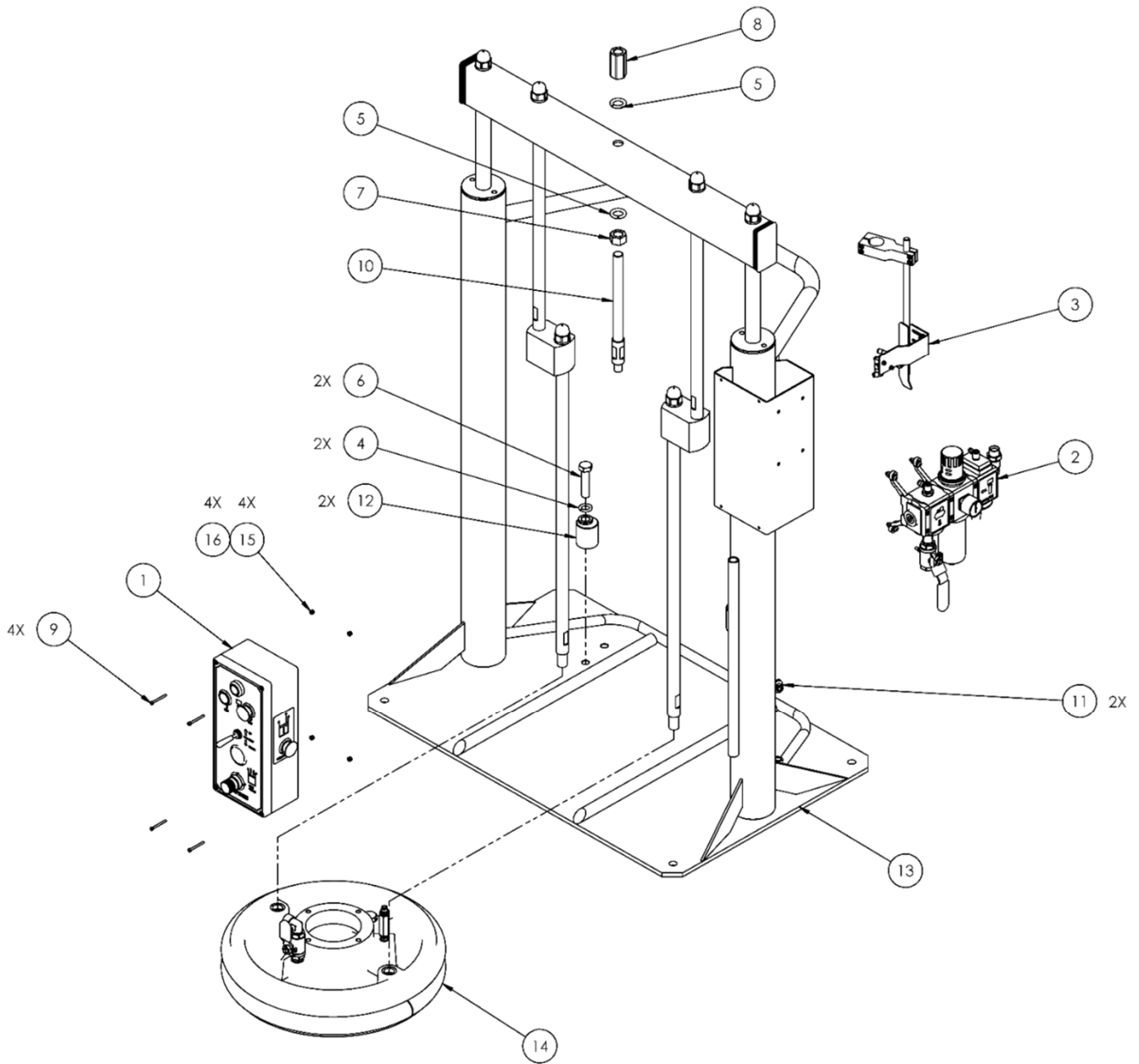
# 104102 - DR20/30/60 Ram Unit Assembly



## 104106 - DR120 Ram Unit Parts Lists

Item	Part No.	Description	Qty.	Remarks
1	104097	RAM CONTROL BOX	1	
2	104098	RAM AIR REG SETUP	1	
3	104105	TRIP ROD ASSEMBLY	1	
4	165100	M16 SPRING WASHER	2	
5	165139	M20 SPRING WASHER	2	
6	165373	M16 x 70 HEX HD BOLT	2	
7	177034	M20 HEX NUT - PLATED	1	
8	177035	M20 STUD CONNECTOR	1	
9	177041	M4 x 45 SOCKET HD CAP SCREW	4	
10	193765	SUPPORT BAR	1	
11	193943	¼" - Ø6 PUSH IN ELBOW	2	
12	194013	DRUM STOP	2	
13	194299	120L RAM UNIT	1	
14	194388	DR120 FOLLOWER PLATE	1	
15	DVX-30	M4 NYLOC NUT	4	
16	DVX-31	M4 WASHER	4	
17	170244	Ø6 x 4 PU HOSE - BLACK	3m	NOT SHOWN
18	170245	Ø4 x 2.5 PU HOSE - BLACK	2m	NOT SHOWN

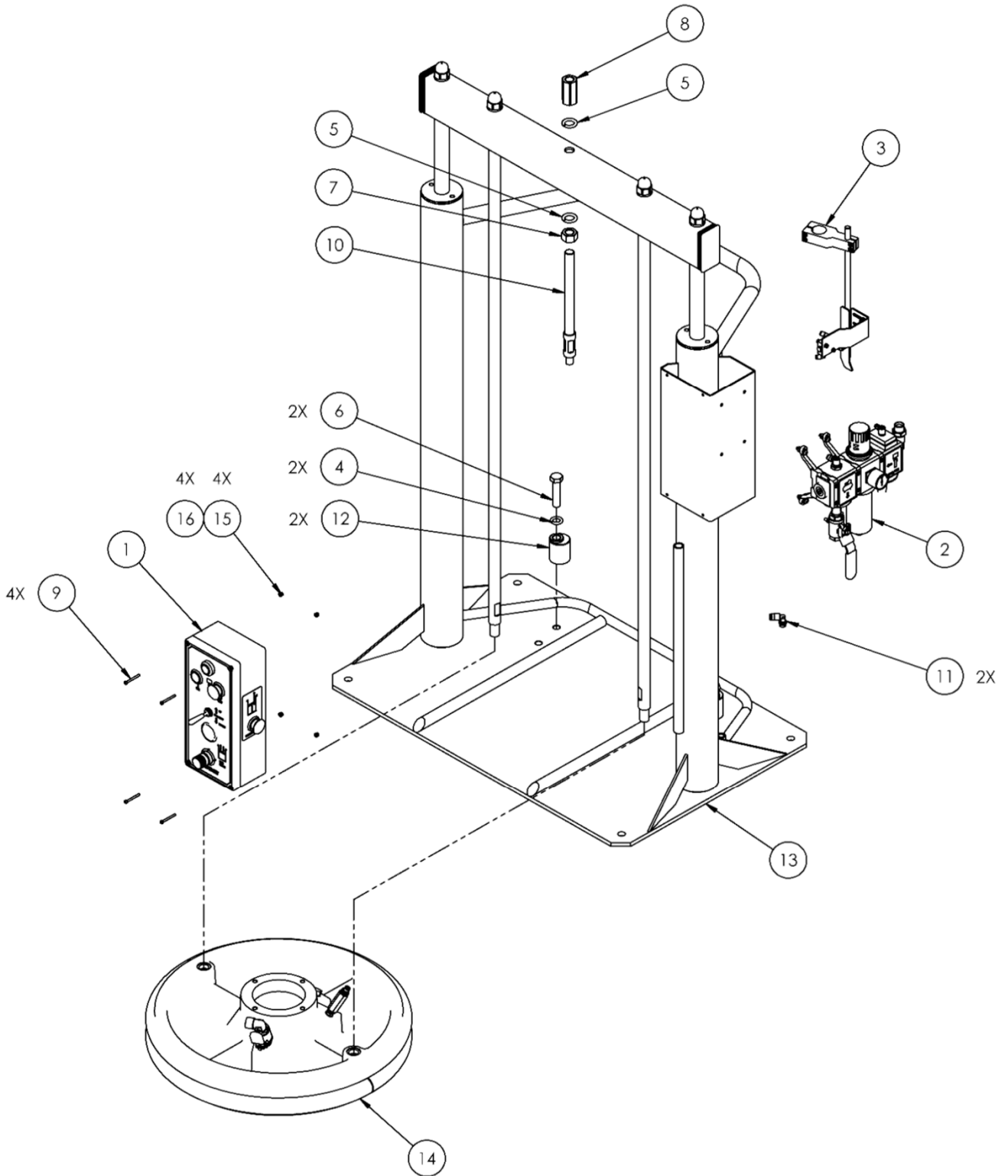
# 104106 - DR120 Ram Unit Assembly



## 104094 - Ram Unit Parts Lists

Item	Part No.	Description	Qty.	Remarks
1	104097	RAM CONTROL BOX	1	
2	104098	RAM AIR REG SETUP	1	
3	104105	TRIP ROD ASSEMBLY	1	
4	165100	M16 SPRING WASHER	2	
5	165139	M20 SPRING WASHER	2	
6	165373	M16 x 70 HEX HD BOLT	2	
7	177034	M20 HEX NUT - PLATED	1	
8	177035	M20 STUD CONNECTOR	1	
9	177041	M4 x 45 SOCKET HD CAP SCREW	4	
10	193765	SUPPORT BAR	1	
11	193943	¼" - Ø6 PUSH IN ELBOW	2	
12	194013	DRUM STOP	2	
13	194294	205L RAM UNIT	1	
14	194295	205L FOLLOWER PLATE	1	
15	DVX-30	M4 NYLOC NUT	4	
16	DVX-31	M4 WASHER	4	
17	170244	Ø6 x 4 PU HOSE - BLACK	3m	NOT SHOWN
18	170245	Ø4 x 2.5 PU HOSE - BLACK	2m	NOT SHOWN

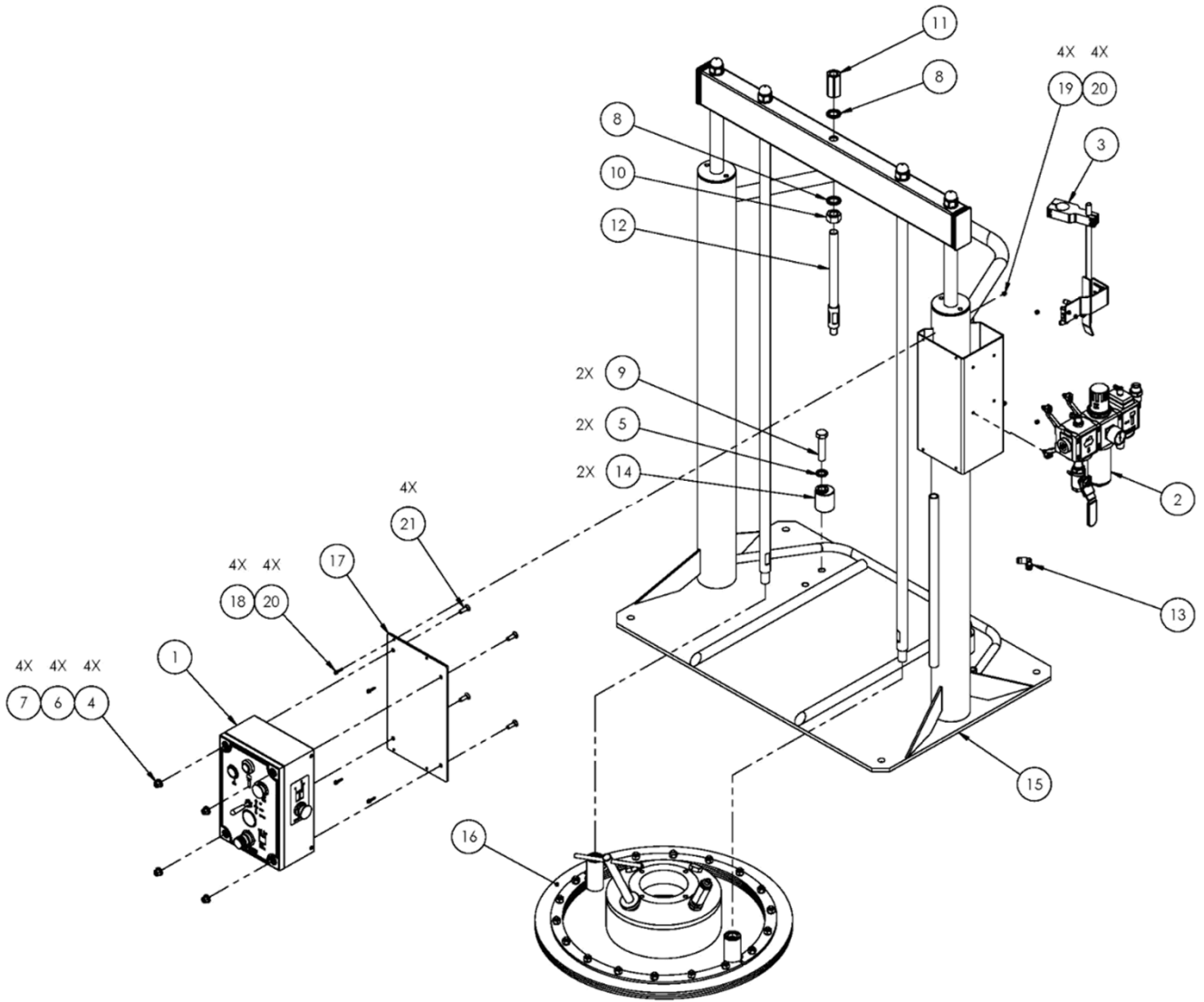
# 104094 - Ram Unit Assembly



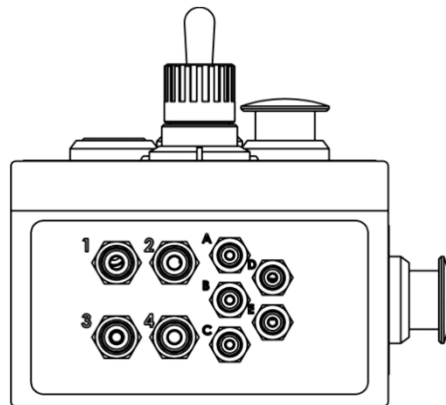
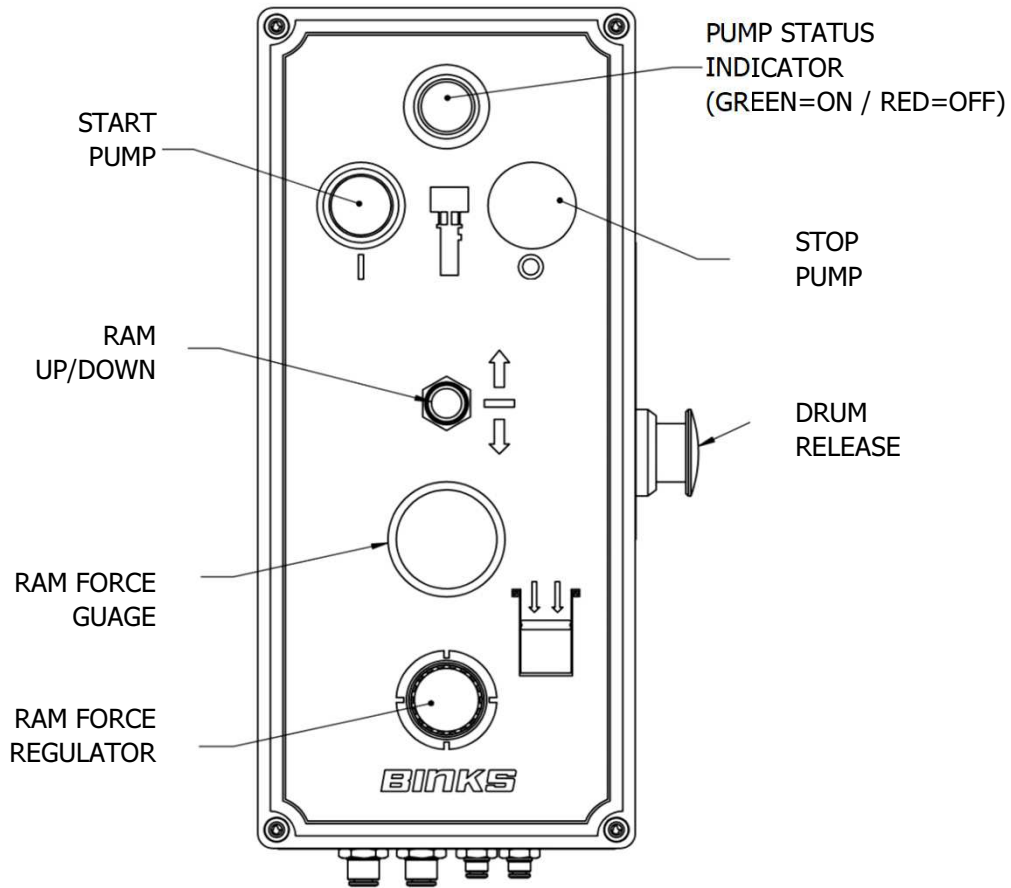
## 104173 - Ram Unit Parts List

Item	Part No.	Description	Qty.	Remarks
1	104097	RAM CONTROL BOX	1	
2	104098	RAM AIR REG SETUP	1	
3	104105	TRIP ROD ASSEMBLY	1	
4	163144	M8 HEX NUT	4	
5	165100	M16 SPRING WASHER	2	
6	165108	M8 SPRING WASHER	4	
7	165134	M8 PLAIN WASHER	4	
8	165139	M20 SPRING WASHER	2	
9	165373	M16 x 70 HEX HEAD BOLT	2	
10	177034	M20 HEX NUT	1	
11	177035	M20 STUD CONNECTOR	1	
12	193765	SUPPORT BAR	1	
13	193943	¼" - Ø6 PUSH IN ELBOW	2	
14	194013	DRUM STOP	2	
15	194294	205L RAM UNIT	1	
16	194664	205L FOLLOWER PLATE ASSY - STST	1	
17	195717	ADAPTOR PLATE	1	
18	DVX-129	M4 x 25 CAP HEAD SCREW	4	
19	DVX-30	M4 NYLOC NUT	4	
20	DVX-31	M4 WASHER	8	
21	SS-3053-D	M8 x 25 C/SUNK SCREW	4	
22	170244	Ø6 x 4 PU HOSE - BLACK	3m	NOT SHOWN
23	170245	Ø4 x 2.5 PU HOSE - BLACK	2m	NOT SHOWN

# 104173 - Ram Unit Assembly



# 104097 - Ram Control Box Details



**Ø6mm PUSH IN**

- 1 = MAINS AIR INLET
- 2 = RAM UP
- 3 = RAM DOWN
- 4 = DRUM RELEASE

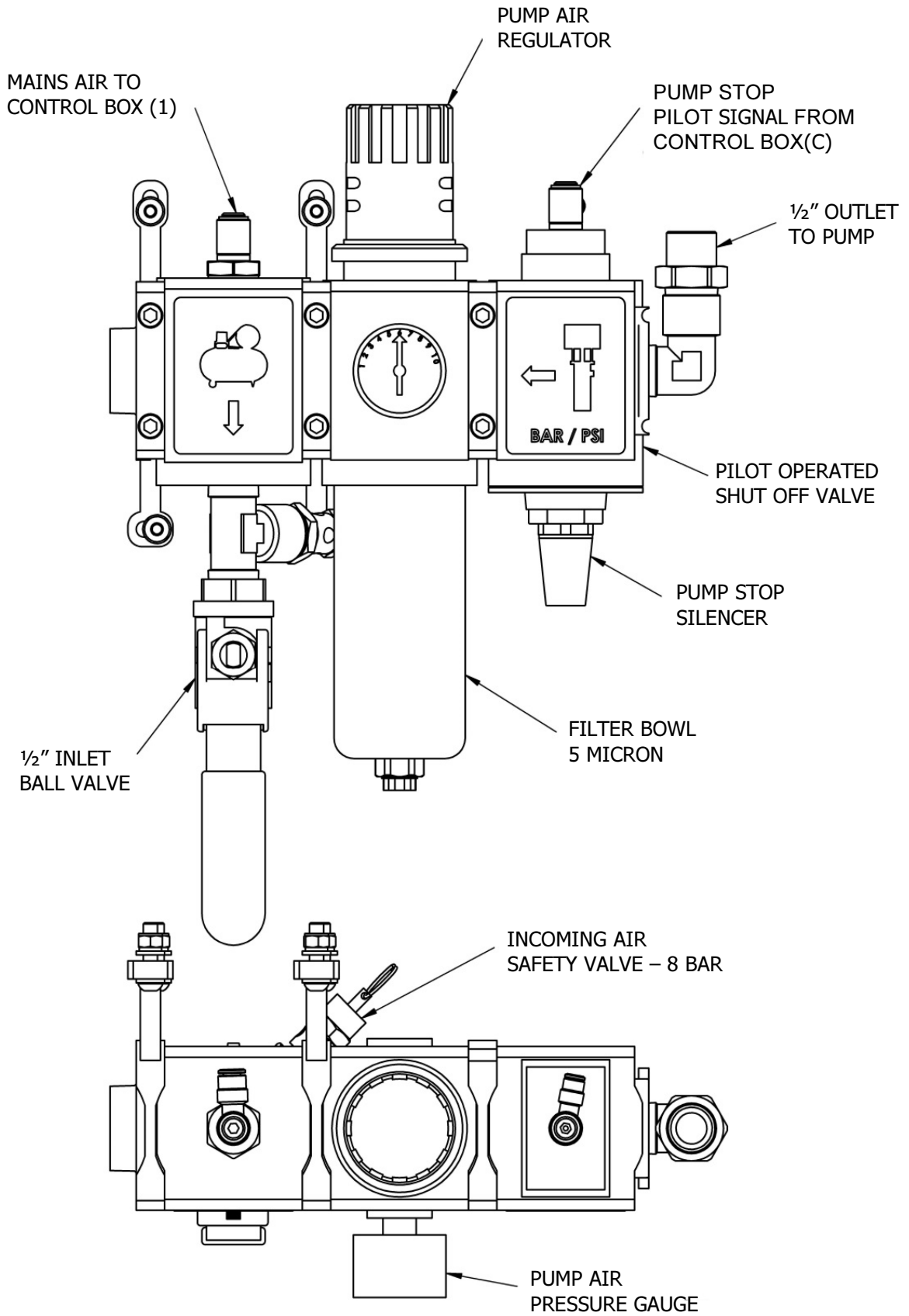
**Ø4mm PUSH IN**

- A = MAINS AIR TO TRIP ROD
- B = TRIP ROD SIGNAL
- C = PUMP SHUT OFF SIGNAL

**WHEN LINKED TO AUTOCHANGEOVER**

- D = DRUM EMPTY SIGNAL
- E = PUMP START SIGNAL

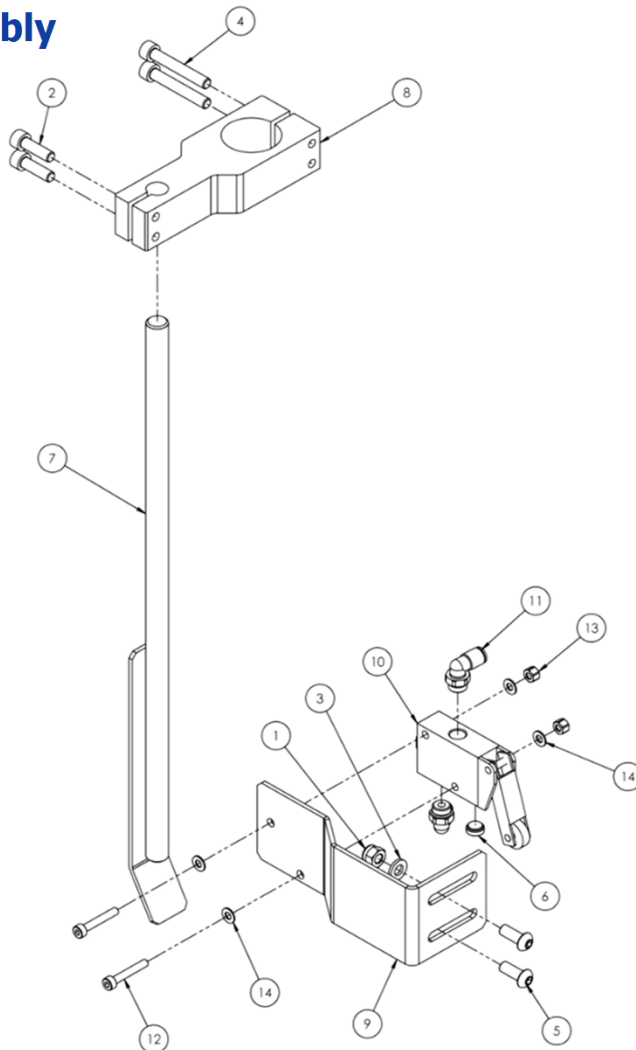
# 104098 - Air Regulator Unit



## 104105 - Trip Rod Parts List

Item	Part No.	Description	Qty.	Remarks
1	0115-010211	M6 NYLOC	2	
2	163952	M6 x 20 CAP HD SCREW	2	
3	165129	M6 WASHER	2	
4	165546	M6 x 40 CAP HD SCREW	2	
5	177031	M6 x 16 BUTTON HEAD SCREW	2	
6	192799	VENT PLUG	1	
7	193902	TRIP ROD ASSEMBLY	1	
8	193905	TRIP ROD CLAMP	1	
9	193906	VALVE BRACKET	1	
10	193907	TRIP ROD 3/2 VALVE	1	#
11	193908	1/8" - Ø4 PUSH IN ELBOW	2	
12	DVX-27	M4 x 25 CAP HEAD SCREW	2	
13	DVX-30	M4 NYLOC NUT	2	
14	DVX-31	M4 WASHER	4	
# - Recommended spares for 104160				

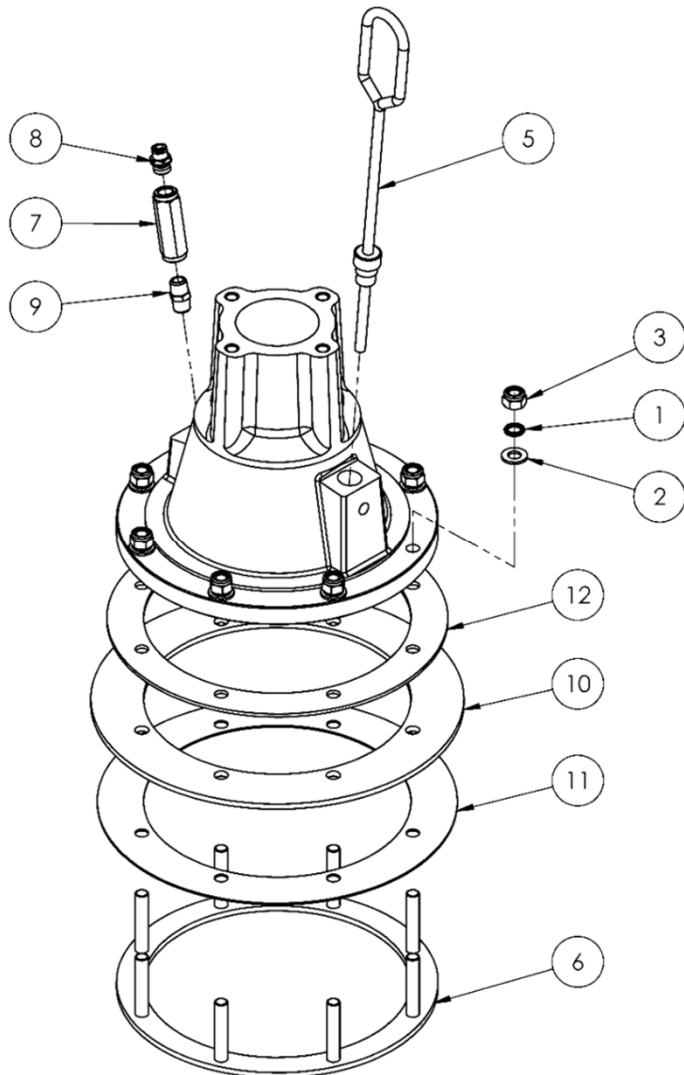
## 104105 - Trip Rod Assembly



## 194480 / 194491 - Ram Plate 20L / 5G (Single Seal) Parts List

Item	Part No.	Description	Qty.	Remarks
1	165123	Ø10 SPRING WASHER (STST)	8	
2	165135	M10 PLAIN WASHER (ST ST)	8	
3	177005	M10 NYLOC NUT - PLATED	8	
4	193749	60L RAM PLATE MACHINING	1	
5	193754	PRIMER SCREW	1	
6	193758	LOWER SEAL CLAMP RING ASSEMBLY	1	
7	193768	¼" NON RETURN VALVE	1	
8	193769	¼" - Ø6 PUSH IN STRAIGHT	1	
9	193948	¼" MALE - 1/4" MALE NIPPLE	1	
10	194481	Ø290 EPDM SEAL	1	194480
	194492	Ø290 PU SEAL	1	194491
11	194482	SCRAPER RING	1	
12	194483	Ø265 SEAL CLAMP RING	1	

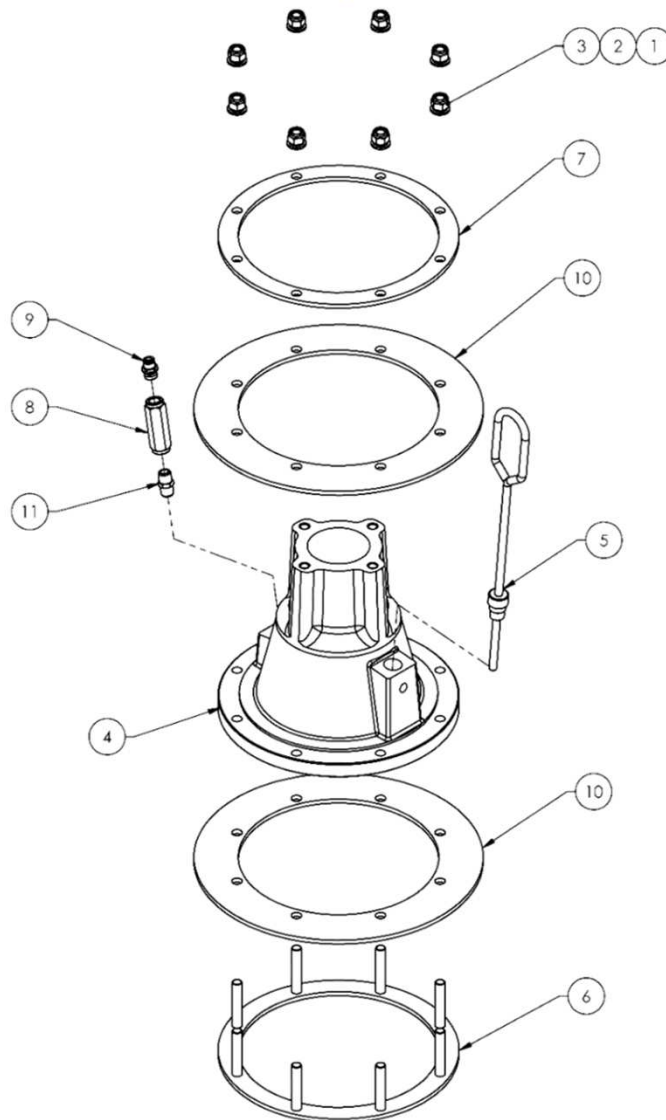
## 194480 / 194491 - Ram Plate 20L / 5G (Single Seal) Assemblies



## 193994 / 193916 - Ram Plate 20L / 5G Parts List

Item	Part No.	Description	Qty.	Remarks
1	165123	Ø10 SPRING WASHER (STST)	8	
2	165135	M10 PLAIN WASHER (ST ST)	8	
3	177005	M10 HEX NUT	8	
4	193749	60L RAM PLATE MACHINING	1	
5	193754	PRIMER SCREW ASSEMBLY	1	
6	193758	LOWER CLAMP RING ASSEMBLY	1	
7	193761	20L SEAL CLAMP RING	1	
8	193768	¼" NON RETURN VALVE	1	
9	193769	¼" - Ø6 PUSH IN STRAIGHT - PLATED BRASS	1	
10	193991	Ø300 SEAL - EDPM	2	193994
	193913	Ø300 SEAL - PU	2	193916
11	193948	¼" MALE - ¼" MALE NIPPLE - PLATED BRASS	1	

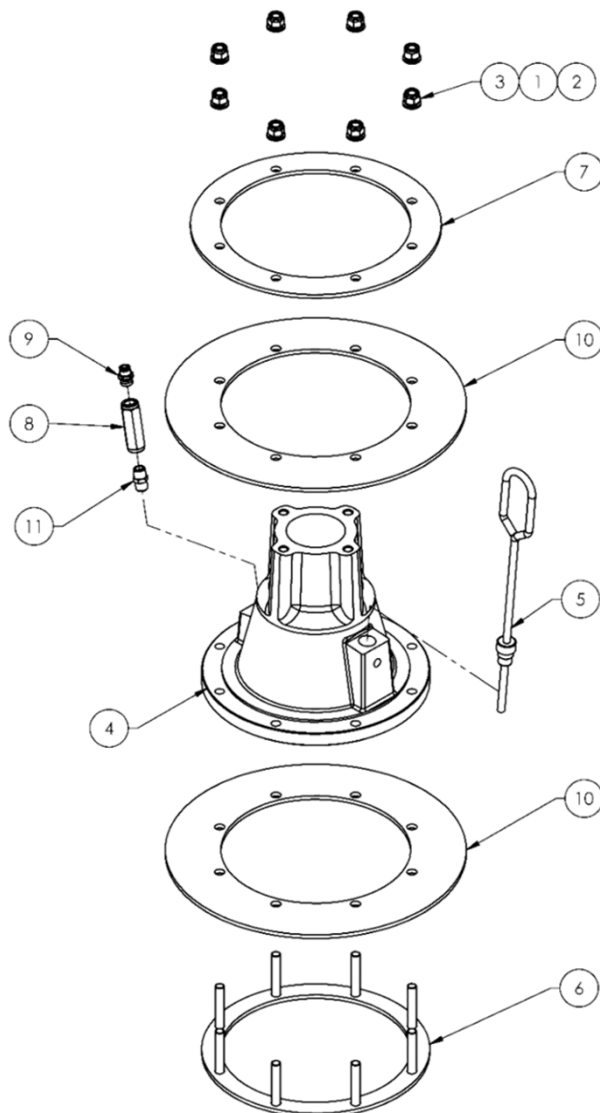
## 193994 / 193916 - Ram Plate 20L / 5G Assemblies



## 193917 / 193995 - Ram Plate 30L / 7.5G Parts List

Item	Part No.	Description	Qty.	Remarks
1	165123	Ø10 SPRING WASHER	8	
2	165135	M10 PLAIN WASHER	8	
3	177005	M10 HEX NUT	8	
4	193749	60L RAM PLATE MACHINING	1	
5	193754	PRIMER SCREW ASSEMBLY	1	
6	193758	LOWER CLAMP RING ASSEMBLY	1	
7	193760	30L SEAL CLAMP RING	1	
8	193768	¼" NON RETURN VALVE	1	
9	193769	¼" - Ø6 PUSH IN STRAIGHT	1	
10	193992	Ø330 SEAL - EDPM	2	193995
	193914	Ø330 SEAL - PU	2	193917
11	193948	¼" MALE - ¼" MALE NIPPLE	1	

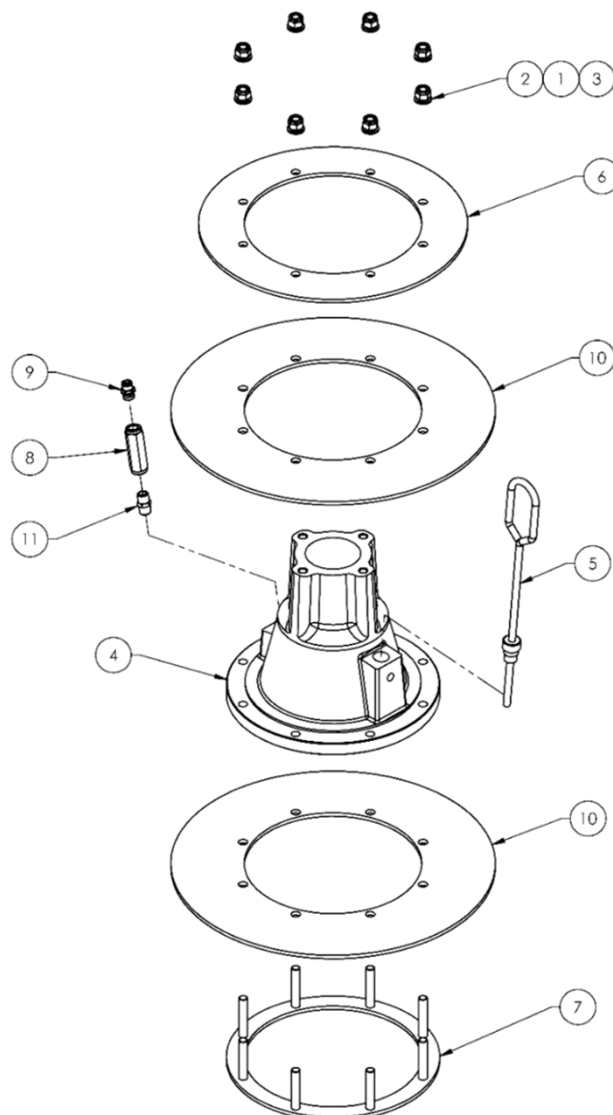
## 193917 / 193995 - Ram Plate 30L / 7.5G Assemblies



## 193918 / 193996 - Ram Plate 60L / 15G Parts List

Item	Part No.	Description	Qty.	Remarks
1	165123	Ø10 SPRING WASHER	8	
2	165135	M10 PLAIN WASHER	8	
3	177005	M10 HEX NUT	8	
4	193749	60L RAM PLATE MACHINING	1	
5	193754	PRIMER SCREW ASSEMBLY	1	
6	193758	LOWER CLAMP RING ASSEMBLY	1	
7	193757	60L SEAL CLAMP RING	1	
8	193768	¼" NON RETURN VALVE	1	
9	193769	¼" - Ø6 PUSH IN STRAIGHT	1	
10	193993	Ø380 SEAL - EDPM	2	193996
	193915	Ø380 SEAL - PU	2	193918
11	193948	¼" MALE - ¼" MALE NIPPLE	1	

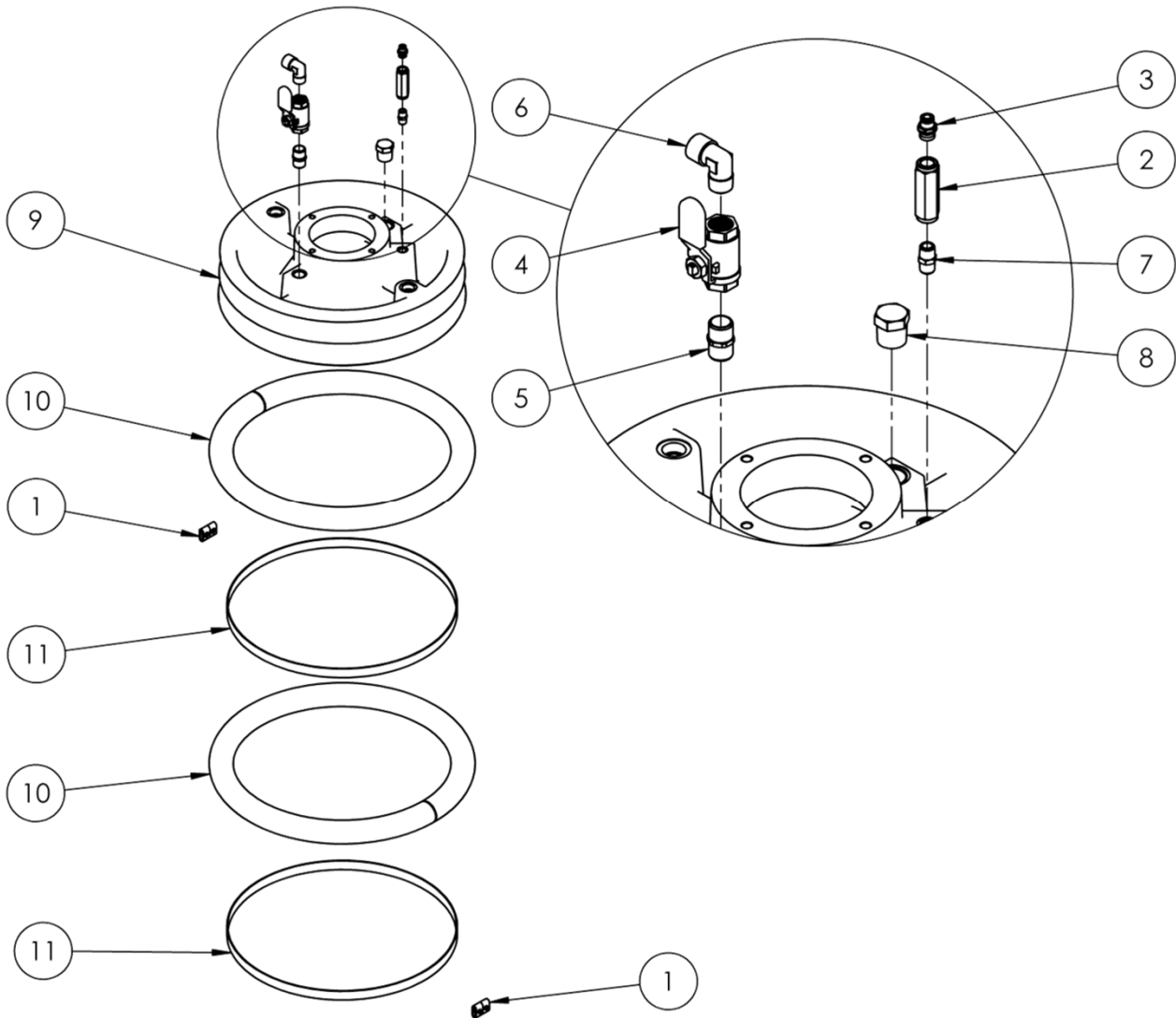
## 193918 / 193996 - Ram Plate 60L / 15G Assemblies



## 194388 - Ram Plate 120L / 30G Parts List

Item	Part No.	Description	Qty.	Remarks
1	181672	¾" STRAP BUCKLE	4	
2	193768	¼" NON RETURN VALVE	1	
3	193769	¼" - Ø6 PUSH IN STRAIGHT	1	
4	193944	½" PLATED BRASS BALL VALVE	1	
5	193945	½" BSPT - ½" BSPT NIPPLE	1	
6	193946	½" MALE - ½" FEMALE ELBOW	1	
7	193948	¼" MALE - ¼" MALE NIPPLE	1	
8	194296	¾" PLUG	1	
9	194298	RAM PLATE MACHINING	1	
10	194389	RAM SEAL 1.3m	2	
11	194390	¾" STRAPPING - 1.6m LONG	2	

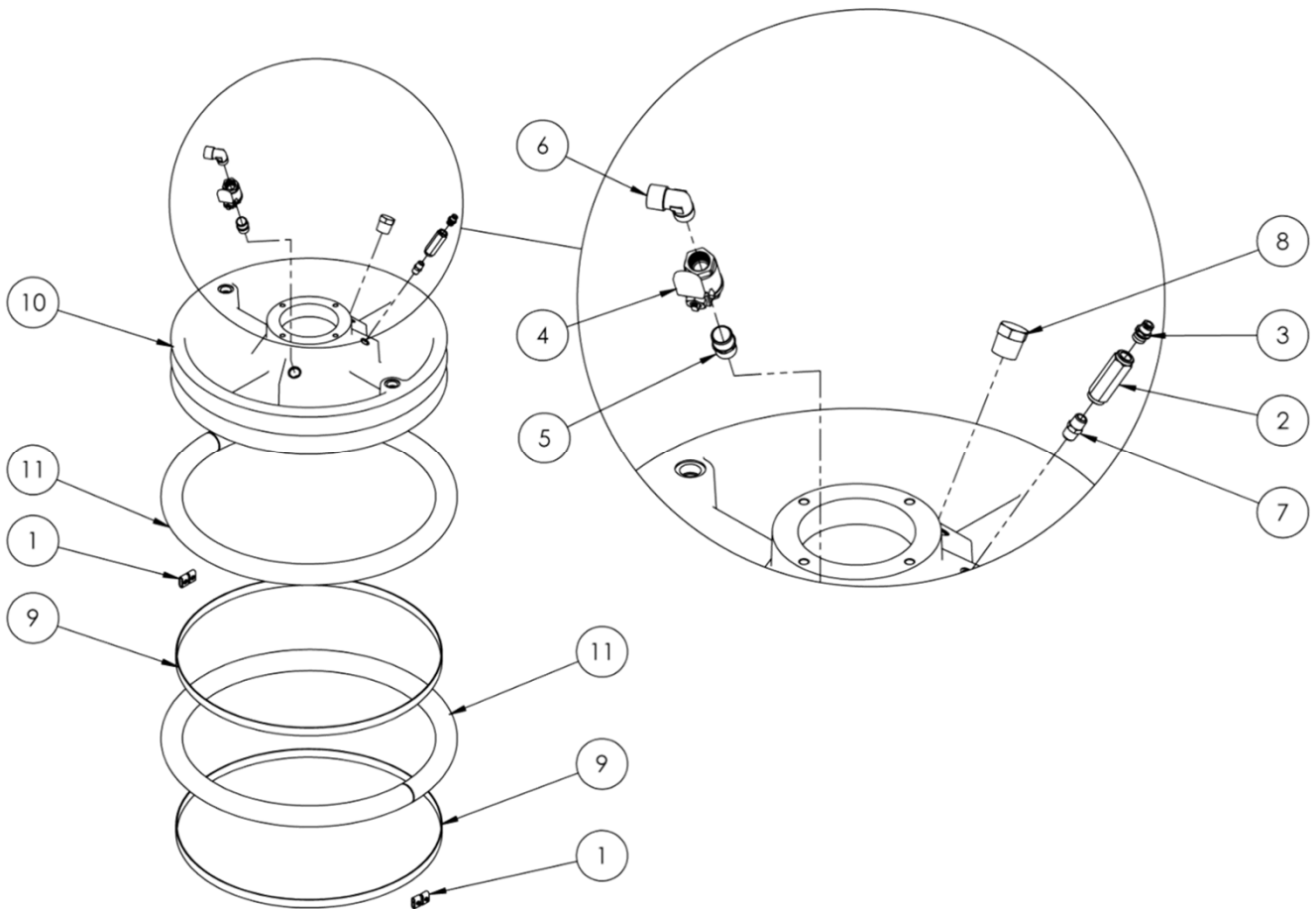
## 194388 - Ram Plate 120L / 30G Assemblies



## 194295 - Ram Plate 205L / 55G Parts List

Item	Part No.	Description	Qty.	Remarks
1	181672	¾" STRAP BUCKLE	4	
2	193768	¼" NON RETURN VALVE	1	
3	193769	¼" - Ø6 PUSH IN STRAIGHT	1	
4	193944	½" PLATED BRASS BALL VALVE	1	
5	193945	½" BSPT - ½" BSPT NIPPLE	1	
6	193946	½" MALE - ½" FEMALE ELBOW	1	
7	193948	¼" MALE - ¼" MALE NIPPLE	1	
8	194296	¾" PLUG	1	
9	202522	¾" STRAPPING - 2.3m LONG	2	
10	205027	205L RAM PLATE MACHINING	1	
11	207064	RAM SEAL	2	

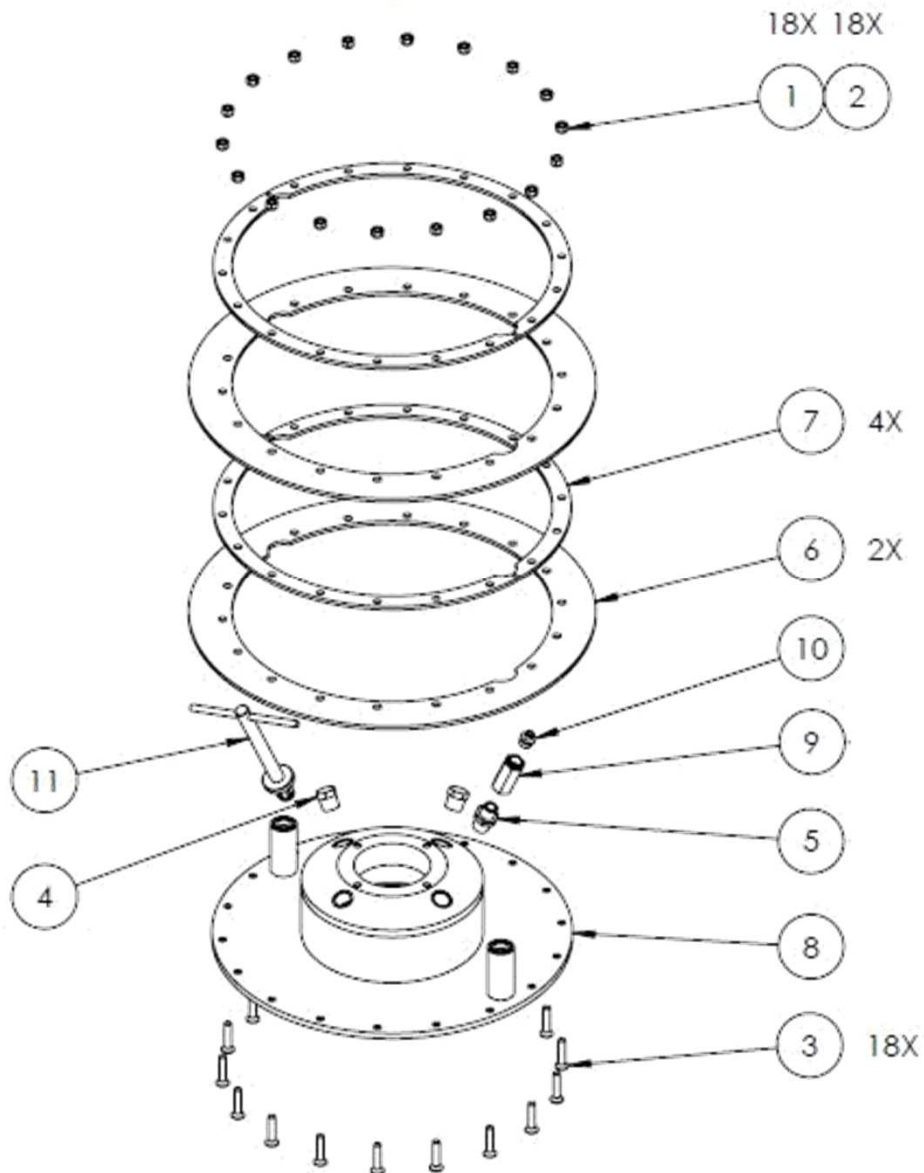
## 194295 - Ram Plate 205L / 55G Assemblies



### 194664 - Follower Plate 205L / 55G – Stainless Steel Parts List

Item	Part No.	Description	Qty.	Remarks
1	163127	HEX NUT	18	
2	165123	SPRING WASHER	18	
3	177086	COUNTERSUNK SCREW	18	
4	194521	3/4" PLUG	2	
5	194522	3/4" - 1/2" NIPPLE	1	
6	194667	PU SEAL	2	
7	194668	SEAL RETAINER	4	
8	194670	205L FOLLOWER PLATE FABRICATION	1	
9	194671	NON RETURN VALVE	1	
10	194672	1/2" - Ø6 PUSH IN	1	
11	194673	205L PRIMER HANDLE	1	

### 194664 - Follower Plate 205L / 55G – Stainless Steel Assemblies



## Accessories

Item	Part No.	Description	Remarks
1	104099	Auto Change Over Panel	To Automatically change over to a Standby Ram Unit when the Duty Ram Unit is empty (Bottom Position)
2	0110-009130	High Pressure Filter (100 Mesh)	0110-009131 – 50 Mesh 0110-009133 – 150 Mesh 0110-009134 – 200 Mesh
3	0114-011760	High Pressure Filter (100 Mesh) (500 bar Max.)	0114-014917 – 30 Mesh 0114-014886 – 50 Mesh 0114-014884 – 70 Mesh 0114-014883 – 100 Mesh 0114-014882 – 150 Mesh 0114-014881 – 200 Mesh
4			
5	0114-016099	Pump Lubrication	Water Based – 0.25L
6	0114-016100	Pump Lubrication	Solvent Based – 0.25L
7	0114-014871	Pump Lubrication	Water Based – 0.5L
8	0114-009433	Pump Lubrication	Solvent Based – 0.5L
9	107866	Filter Housing St St	191833 – 200 Micron Element St St 191834 – 400 Micron Element St St 192523 – 600 Micron Element St St 192524 – 1200 Micron Element St St
10	107867	Filter Housing Carbon St	
11	107876	Twin Filter Housing Assembly St St	Filter Element to be Specified Separately
12	107877	Twin Filter Housing Assembly Carbon St	Filter Element to be Specified Separately

**# Spare Parts For - (SR20) 104110 Ram Unit**

Item	Part No.	Description	Qty	Remarks
1	193907	3/2 Trip Valve	1	
2	250700	Ram Cylinder Seal Kit	1	
3	250724	Ram Cylinder Seal Kit	1	For Rams after serial number: 42508
4	193768	1/4" Non Return Valve	1	
5	193769	1/4" – Ø6 Push In Straight	1	
6	193943	1/4" – Ø6 Push In Elbow	2	
7	193908	1/8" – Ø4 Push In Elbow	2	
8	170244	Ø6 x 4 PU Hose – Black	2m	
9	170245	Ø4 x 2.5 PU Hose - Black	2m	
10	193913	Ø300 Seal - PU	2	
11	193991	Ø300 Seal – EPDM	2	
12	194481	Ø290 WIPER SEAL - EPDM	1	SINGLE WIPER PLATE
13	194492	Ø290 WIPER SEAL – PU	1	SINGLE WIPER PLATE

**# Spare Parts For – (DR20/30/60) 104102 Ram Unit**

Item	Part No.	Description	Qty	Remarks
1	250700	Ram Cylinder Seal Kit	2	
2	250724	Ram Cylinder Seal Kit	2	For Rams after serial number: 42508
3	193768	1/4" Non Return Valve	1	
4	193769	1/4" – Ø6 Push In Straight	1	
5	193943	1/4" – Ø6 Push In Elbow	2	
6	193908	1/8" – Ø4 Push In Elbow	2	
7	170244	Ø6 x 4 PU Hose – Black	2m	
8	170245	Ø4 x 2.5 PU Hose - Black	2m	
9	193913	Ø300 Seal – PU	2	20L
10	193991	Ø300 Seal – EPDM	2	20L
11	193914	Ø330 Seal – PU	2	30L
12	193992	Ø330 Seal – EPDM	2	30L
13	193915	Ø380 Seal – PU	2	60L
14	193993	Ø380 Seal – EPDM	2	60L

**# Spare Parts For - (DR120) 104106 Ram Unit**

Item	Part No.	Description	Qty	Remarks
1	194389	Wiper ring	2	
2	194390	Strapping	2	
3	181672	Strap buckle	4	
4	193768	¼" Non Return Valve	1	
5	193769	¼" – Ø6 Push In Straight	1	
6	193943	¼" – Ø6 Push In Elbow	2	
7	193948	¼" Male – ¼" Male Nipple	1	
8	170244	Ø6 x 4 PU Hose – Black	3m	
9	170245	Ø4 x 2.5 PU Hose - Black	2m	
10	250724	Ram Cylinder Seal Kit	2	

**# Spare Parts For – (DR205) 104094 Ram Unit**

Item	Part No.	Description	Qty	Remarks
1	207064	Wiper ring	2	
2	202522	Strapping	2	
3	181672	Strap buckle	4	
4	193768	¼" Non Return Valve	1	
5	193769	¼" – Ø6 Push In Straight	1	
6	193943	¼" – Ø6 Push In Elbow	2	
7	193948	¼" Male – ¼" Male Nipple	1	
8	170244	Ø6 x 4 PU Hose – Black	3m	
9	170245	Ø4 x 2.5 PU Hose - Black	2m	
10	250700	Ram Cylinder Seal Kit	2	
11	250724	Ram Cylinder Seal Kit	2	For Rams after serial number: 42508

### # Spare Parts For – (DR205) 104173 Ram Unit

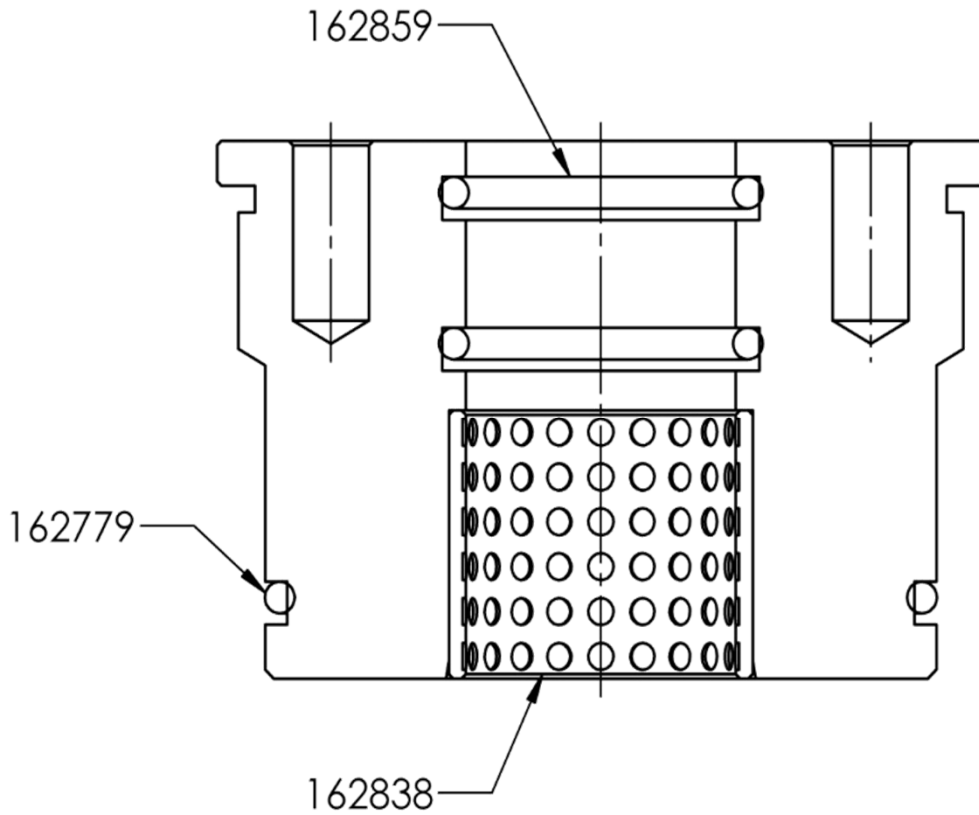
Item	Part No.	Description	Qty	Remarks
1	194667	PU Wiper Seal	2	
2	163127	Hex Nut	18	
3	165123	Spring Washer	18	
4	177086	Countersunk Screw	18	
5	194671	½" Non Return Valve	1	
6	194672	½" – Ø6 Push In Straight	1	
7	193943	¼" – Ø6 Push In Elbow	2	
8	194522	¾" Male – ½" Male Nipple	1	
9	170244	Ø6 x 4 PU Hose – Black	3m	
10	170245	Ø4 x 2.5 PU Hose - Black	2m	
11	250700	Ram Cylinder Seal Kit	2	
12	250724	Ram Cylinder Seal Kit	2	

### # Spare Parts For - 104105 Trip Valve Kit

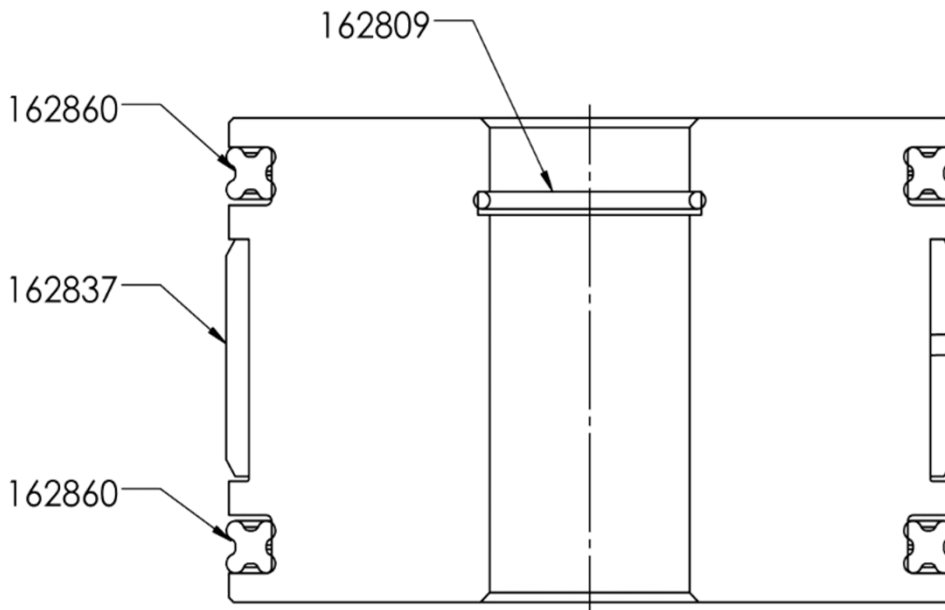
Item	Part No.	Description	Qty	Remarks
1	193907	3/2 Trip Valve	1	

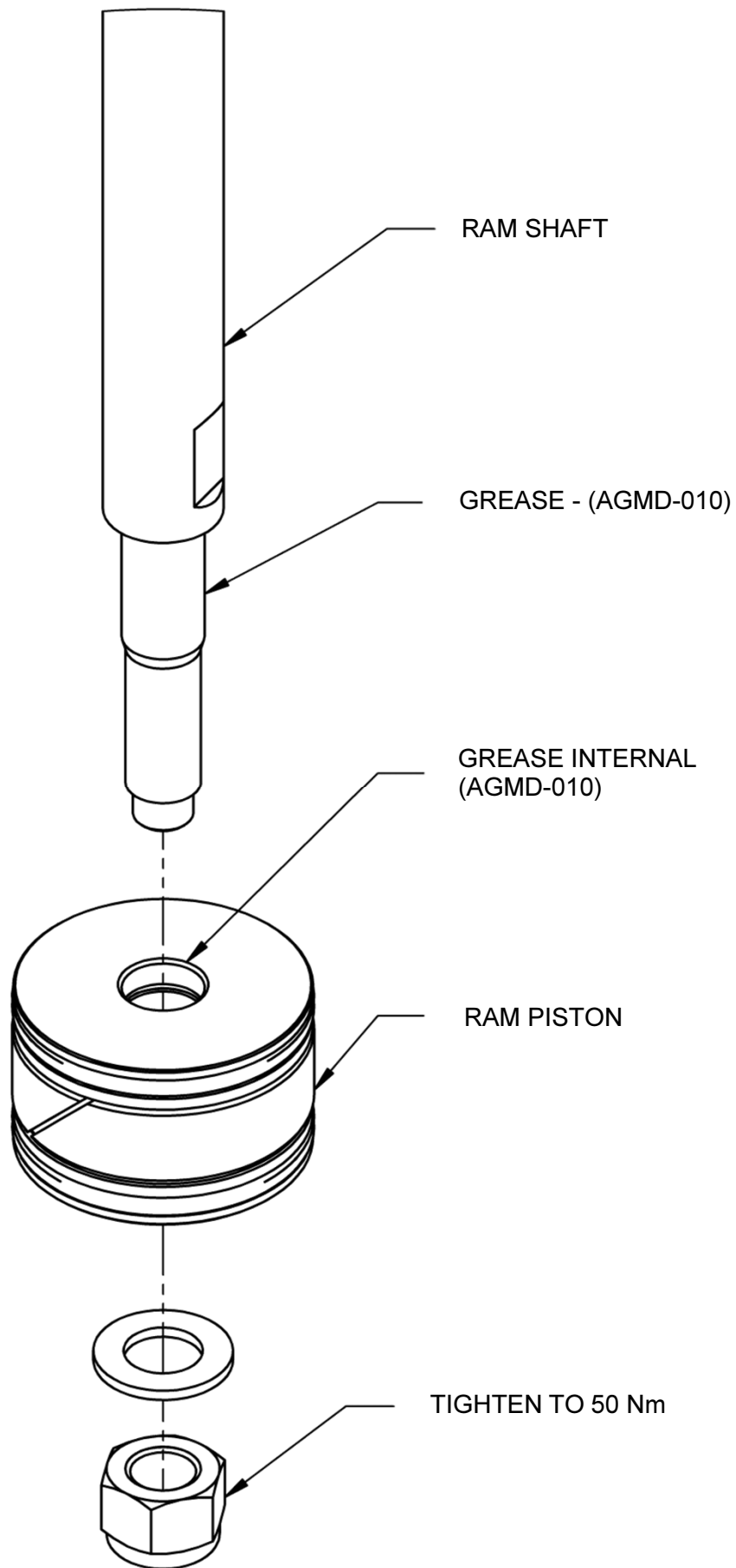
# Cylinder Service Reference – Spares Kit 250724

## CYLINDER ROD HOUSING ASSEMBLY



## RAM PISTON





**NOTES**

**NOTES**



## WARRANTY POLICY

This product is covered by Binks materials and workmanship limited warranty.

The use of any parts or accessories, from a source other than Binks, will void all warranties. Failure to reasonably follow any maintenance guidance provided, may invalidate any warranty.

For specific warranty information please contact Binks.

For technical assistance or to locate an authorised distributor, contact one of our international sales and customer support locations below.

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## WARRANTY PAGE



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