

# PR70™

# Meter, Mix and Dispense Systems



# PR70. Performance You Can Trust



### Reliable meter, mix and dispense systems

Graco PR70™ Meter, Mix and Dispense Systems offer superior accuracy for a broad range of applications including bonding and sealing, potting, gasketing, encapsulation and syringe filling.

### Handles most two-component materials

- Stainless steel design reduces the chance of a material incompatibility
- Positive displacement pumps deliver ratio accuracy to ±1%
- Linear transducer monitors piston velocity to provide ratio assurance, and reduce scrap and re-work
- Single stroke shot size ranges from 2 to 70 cc's
- Ratio range from 1:1 to 24:1, with a 2-to-1 adjustment using the PR70v

#### Rugged, reliable and durable

- · Long-lasting wear parts mean lower cost of ownership
- · Cast pump bodies for improved seal alignment
- Chromex<sup>™</sup> shafts and Severe Duty<sup>™</sup> cylinders combined with stainless steel fittings provide long pump life with no corrosion
- Shaft seals designed for extended life and easy replacement
- Preventive maintenance counter to plan system rebuilds around your production schedule
- Linear thrust bearings eliminate side loading to maximize seal life and performance

### Ease of operation and less downtime

- Standard electronic controls allow for digital shot entry in grams (excludes PR70e)
- Built-in, easy to set up purge timer keeps system up and production running (excludes PR70e)
- Graco Control Architecture modules, with built-in diagnostics allow for quick troubleshooting
- Modular design eliminates point-to-point wiring a quick board change-out gets your system up and running

### **Key industries**

- · Product assembly
- Automotive components
- Automotive electronics
- · Consumer electronics
- Medical
- · Sporting goods
- Appliance

# **Technology You Can Count On**

### Graco reliability. Industry-proven accuracy. Intuitive design.

The PR70 fixed ratio system accurately meters, mixes and dispenses two-component medium to low-viscosity materials for potting, gasketing, sealing, encapsulation and syringe filling. For variable ratio dispensing, the PR70v handles ratios from 1:1 to 24:1 and offers even more control with an optional Advanced Display Module. Further options include the PR70f (flow control) and PR70 Servo for bead applications.



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# PR70e. Reliable Dispensing at an Affordable Price

#### Easy to use, entry-level system.

If you are looking for a basic meter, mix and dispense system, the PR70e is the ideal model for you. It offers reliable and accurate performance, yet at a lower initial investment than other PR70 models.



 Multiple pump sizes available to provide Imultiple target ratios. Also delivers shot accuracies to ±1%  Optimized pump support, seal design, and Chromex rods provide twice the life of existing systems

# **Superior Tracking and Monitoring Capabilities**

#### **Graco Control Architecture**

PR70 Dispense Systems (excluding PR70e) feature intuitive user interfaces based on the Graco Control Architecture, a modular system of processing and control components. Products using the Graco Control Architecture provide similar interface functionality across your plant and simplify training. Maintenance and service is easier too, thanks to built-in troubleshooting tools and simple, modular part replacement.

#### **Advanced Display Module**

When you upgrade to the Advanced Display Module, you gain extra capabilities that allow you to accomplish more in your production area. The Advanced Display Module enables expanded features including:

- Recirculation capability
- Programmable shot sizes and sequencing up to 50 different shot sizes and seven sequences
- Integrated heater control
- Large, bright color screen makes the system easier to see and use
- Key pad entry makes it easy to program and reduces operator training time



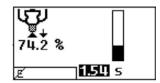
Recirc Mode option prevents materials from setting overnight



Set-up screen gives users easy access heat options

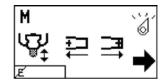
#### **Local Control Module (PR70e only)**

- Simple system electronic controls with diagnostics
- LCD graphical interface saves time by enabling accurate shot size programming
- Automatic alarms notify you when pumps need attention



#### **Operation Screen**

Shot size is displayed as a percentage of stroke length, duration of shot and progress bar.



Maintenance Mode Screen

Allows trouble shooting and easy maintenance through manual operation of system





# **Technical specifications**

		PR70e with LCM	PR70 with DM	PR70 with ADM	PR70v with ADM	PR70f with ADM	PR70s with Servo
System	Configured system?	No	Yes	Yes	Yes	No	No
Ratios	Fixed Ratio Variable Ratio	1:1 to 12:1 NA	1:1 to 12:1 NA	1:1 to 12:1 NA	NA 1:1 to 24:1	1:1 to 12:1 1:1 to 24:1	1:1 to 12:1 1:1 to 24:1
Shots	Number of shots Based on Percentage of stroke Weight Based Shots Multi-stroke shots (over 100%) Shot Sequencing	1 Yes No No No	5 No Yes Yes Optional	50 No Yes Yes Yes	50 No Yes Yes Yes	50 No Yes Yes Yes	10 No No Yes No
Monitoring	Pressure Monitoring Ratio Monitoring	No No	Optional Optional	Optional Optional	Optional Optional	Optional Optional	Optional No
Data Controls	Local Control Module (LCM) Display Module (DM) Advanced Display Module (ADM) Gel Timer Run with Automation (PLC) USB Download Light Tower	Yes No No No No No	No Yes Optional Yes Yes Optional No	No No Yes Yes Yes Yes Optional	No No Yes Yes Yes Yes Optional	No No Yes Yes Yes Optional	No No No Yes Yes Optional Optional
Flow Control	Flow Control Flow Range* PLC Flow Selections Bead Control Snake-Head Control Pump Re-Loading Capability Bead/Dispense Pausing Remote Analog Flow Control	No N/A N/A No No No No	No N/A N/A No No No No	No N/A N/A No No No No	No N/A N/A No No No No	Yes 0.014-226 15 Yes Yes Yes Yes Yes No	Yes 0-47 Infinite Yes Yes Yes Yes Yes Yes Yes

<sup>\*</sup> Flow ranges are in cc/second. Be sure to choose proper pump sizes to achieve desired flow rate.

## Accessories and configurations — Available for all models except where noted below.

Valves	1:1 MD2 Valve 10:1 MD2 Valve	Optional Optional	Optional Optional	
Hose options	2.5 ft (76 cm), 10 ft (3 m), 15 ft (4.6 m)	Accessory	Optional	
Tanks, Accumulators, Heated Equipment, Accessories	Plastic Tanks On-Board Stainless Steel Tanks 1-1/2 NPT Flange Kit for bulk feed Off-Board Stainless Steel Tanks Heated Tanks Agitation Tank Level Sensors Low Tank Level Sensors High Accumulators Auto Refill Mixers & Shrouds Valve Mounting Heated Hoses Recirculation	Accessory Accessory Accessory No Accessory No No No No No Accessory Accessory No No No No No Accessory Accessory Accessory	Optional Optional Optional Optional Optional Optional Optional No No No Optional Optional Optional No	Optional items can be selected from the configurator and are factory installed.  Accessories are ordered when you order the machine, but you assemble it onto the machine at your location.

# **Technical Specifications**

Instruction Manuals PR70 with Display Module Operation & Maintenance	Large Air Cylinder Effective Area. 15.9 in² (10260 mm Maximum Stroke Length. 1.50 in (38.1 mm Minimum Stroke Length. 0.23 in (5.8 mm Volume per Cycle. 0.12 − 4.3 in² (2 − 70 c Pump Cycles per 1L (26 gal) 500 − 14 Ratios (fixed). 1:1 to 12:1 depending on cylinders selecte Ratios (variable) 1:1 to 24:1 depending on cylinders selecte Maximum Fluid Working Pressure 3000 psi (207 bar, 20.7 MP Maximum Air Input Pressure. 100 psi (7 bar, 0.7 mm Maximum Cycle Rate 30 cp Maximum Operating Temperature 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size. 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size. 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size. 903, -04, -06, -08 or -12 JIC fittings fi 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose Wetted Parts. 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant O-rings, PTFE, nylon, UHMWF Weight − PR70. 120 lb (55 kg) typical with two 7.5 I tank Weight − PR70 160 kg (by pical with two 7.5 I tank Weight − PR70 100 kg (by pical with two 7.5 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (by pical with two 60 I tank Weight − PR70 100 kg (	Metering Pump Effective Area	
Maximum Stroke Length.       1.50 in (38.1 mm         Minimum Stroke Length.       0.23 in (5.8 mm         Volume per Cycle       0.12 – 4.3 in³ (2 – 70 cc         Pump Cycles per 1L (26 gal).       500 – 14.         Ratios (fixed).       1:1 to 12:1 depending on cylinders selecte         Ratios (variable)       1:1 to 24:1 depending on cylinders selecte         Maximum Fluid Working Pressure       3000 psi (207 bar, 20.7 MPz         Maximum Oycle Rate       30 opp         Maximum Oycle Rate       30 opp         Air Inlet Size       50° C (120° F) UHMWPE pistons or PE tank         Air Inlet Size       50° C (120° F) UHMWPE pistons or PE tank         Pump Fluid Outlet Size       403, 404, 66, 408 or -12 JIG fittings for         Wetted Parts       30/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight – PR70       12 10 16 556 yg) typical with two 7.5 I tank         Weight – PR70       160 1b (73 kg) typical with two 60 I tank         Weight – PR70e       370 1b (168 kg) typical with two 61 I tank         Weight – PR70e       100 -240V 50/60Hz 1 phase for machine – 80 watts         Compressed Air       100 1b (36 kg) typical with two 60 I tank         Electrical Power       100 -240V 50/60Hz 1 phase for non-board agitators         Instruction Manuals       120 -240V	Maximum Stroke Length       1.50 in (38.1 mm         Minimum Stroke Length       0.23 in (5.8 mm         Volume per Cycle       0.12 – 4.3 in² (2 – 70 c         Pump Cycles per 1L (26 gal)       500 – 14         Ratios (fixed)       1:1 to 12:1 depending on cylinders selecte         Ratios (variable)       1:1 to 24:1 depending on cylinders selecte         Maximum Pluid Working Pressure       3000 psi (207 bar, 20.7 MP         Maximum Oycle Rate       30 cp         Maximum Operating Temperature       70° C (160° F) nylon pistor         Air Inlet Size       50° C (120° F) UHMWPE pistons or PE tant         Pump Fluid Outlet Size       -03, -04, -05, -08 or -12 JIC fittings F         3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF         Weight – PR70       12 10 (55 kg) typical with two 7.5 I tant         Weight – PR70       160 lb (73 kg) typical with two 7.5 I tant         Weight – PR70e       160 lb (73 kg) typical with two 60 I tant         Compressed Air       < 10 scfm typical (varies with cycle time	Small Air Cylinder Effective Area	
Minimum Stroke Length. 0.23 in (5.8 mm Volume per Cycle 0.12 − 4.3 in² (2 − 70 cc Pump Cycles per 1L (.26 gal) 500 − 14.  Ratios (fixed) 1.1 to 12.1 depending on cylinders selecte Ratios (variable) 1.1 to 24.1 depending on cylinders selecte Ratios (variable) 1.1 to 24.1 depending on cylinders selecte Maximum Fluid Working Pressure 3000 psi (207 bar, 20.7 MPz Maximum Air Input Pressure 100 psi (7 bar, 0.7 MPz Maximum Operating Temperature 70° C (160° F) nylon piston Maximum Operating Temperature 70° C (160° F) UHMWPE pistons or PE tank Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size 1/4 NPT( Pump Fluid Outlet Size 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP Weight − PR70 120 to (55 kg) typical with two 7.5 I tank Weight − PR70 160 to (73 kg) typical with two 7.5 I tank Weight − PR70 160 to (73 kg) typical with two 7.5 I tank Compressed Air 100 to (46 kg) typical with two 60 I tank Weight − PR70 100 to (46 kg) typical with two 60 I tank PR70 100 to (46 kg) ty	Minimum Stroke Length  Volume per Cycle  0.12 – 4.3 in' (2 – 70 c  Pump Cycles per 1L (26 gal)  500 – 14  Ratios (fixed)  1:1 to 12:1 depending on cylinders selecte.  Ratios (variable)  1:1 to 24:1 depending on cylinders selecte.  Ratios (variable)  1:1 to 24:1 depending on cylinders selecte.  Maximum Fluid Working Pressure  3000 psi (207 bar, 20.7 MP  Maximum Cycle Rate  30 cp  Maximum Operating Temperature  70° C (160° F) UHMWPE pistons or PE tanl  Air Inlet Size  50° C (120° F) UHMWPE pistons or PE tanl  Air Inlet Size  50° C (120° F) UHMWPE pistons or PE tanl  Air Inlet Size  3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hosy  Wetted Parts  3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hosy  Weight − PR70  120 lo (55 kg) typical with two 7.5 I tanl  Weight − PR70  160 lo (73 kg) typical with two 7.5 I tanl  3/16 lo (73 kg) typical with two 7.5 I tanl  3/16 lo (73 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight − PR70  100 lo (46 kg) typical with two 60 I tanl  Weight		
Volume per Cycle         0.12 − 4.3 in³ (2 − 70 cc           Pump Cycles per 1L (.26 gal)         500 − 14.           Ratios (fixed).         1:1 to 12:1 depending on cylinders selecte           Ratios (variable)         1:1 to 24:1 depending on cylinders selecte           Maximum Fluid Working Pressure         3000 psi (207 bar, 20.7 MPz           Maximum Air Input Pressure.         100 psi (7 bar, 0.7 MPz           Maximum Cycle Rate         30 cpr           Maximum Operating Temperature         70° C (160° F) pUHMWPE pistons or FE tank           Air Inlet Size         1/4 NPT(i           Pump Fluid Outlet Size         -03, -04, -06, -08 or -12 JIC fittings for           3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose           Wetted Parts         303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP           Weight − PR70         120 lb (55 kg) typical with two 7.5 I tank           Weight − PR70 .         160 lb (73 kg) typical with two 7.5 I tank           Weight − PR70 .         160 lb (73 kg) typical with two 7.5 I tank           Compressed Air         < 10 scfm typical vide with two 7.5 I tank	Volume per Cycle         0.12 − 4.3 in³ (2 − 70 c           Pump Cycles per 1L (.26 gal)         500 − 14           Ratios (fixed)         1:1 to 12:1 depending on cylinders selected.           Ratios (variable)         1:1 to 24:1 depending on cylinders selected.           Maximum Fluid Working Pressure         3000 psi (207 bar, 20.7 MP)           Maximum Air Input Pressure.         100 psi (7 bar, 0.7 MP)           Maximum Oycle Rate         30 cp           Air Inlet Size         70° C (160° F) UHMWPE pistons or PE tank           Air Inlet Size         1/4 NPT           Pump Fluid Outlet Size         -03, -04, -06, -08 or -12 JIC fittings for 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose           Wetted Parts         303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP           Weight − PR70         120 lb (55 kg) typical with two 60 I tank           Weight − PR70v         160 lb (73 kg) typical with two 7.5 I tank           Weight − PR70e         370 lb (168 kg) typical with two 60 I tank           Compressed Air         < 10 scfm typical (varies with cycle tim		
Pump Cycles per 1L (.26 gal) 500 − 14.  Ratios (fixed). 1:1 to 12:1 depending on cylinders selecte Ratios (variable). 1:1 to 24:1 depending on cylinders selecte Maximum Fluid Working Pressure 3000 psi (207 bar. 20.7 MPz Maximum Air Input Pressure. 100 psi (7 bar. 0.7 MPz Maximum Operating Temperature 70° C (160° F) nylon piston  Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size 70° C (160° F) nylon piston  3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose  Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP Weight − PR70 120 io (55 kg) typical with two 7.5 I tank Weight − PR70 120 io (55 kg) typical with two 60 I tank Weight − PR70 160 io (73 kg) typical with two 60 I tank Weight − PR70 100 io (46 kg) typical with two 60 I tank Compressed Air 100 c 240V 50/60Hz 1 phase for machine −80 watts 208−240V 50/60Hz 1 phase for machine −80 watts 208−240V 50/60Hz 1 phase for on-board agitators Instruction Manuals PR70 with Display Module Operation & Maintenance 31239 PR70 Models with Advanced Display Module 31275 Repair and Parts. 31276 PR70 PR70 peration & Maintenance 31239 PR70 Integrated Heat 31239 PR70 Integrated Heat 31236 MD2 Valve Instructions and Parts. 312185	Pump Cycles per 1L (.26 gal)		·
Ratios (fixed). 1:1 to 12:1 depending on cylinders selecte Ratios (variable) 1:1 to 24:1 depending on cylinders selecte Ratios (variable) 1:1 to 24:1 depending on cylinders selecte Maximum Fluid Working Pressure 3000 psi (207 bar, 20.7 MP≥ Maximum Cycle Rate 100 psi (7 bar, 0.7 MP≥ Maximum Oyele Rate 30 cpr Maximum Operating Temperature 70° C (160° F) nylon piston Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size 703, -04, -06, -08 or -12 JIC fittings for S/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP Weight − PR70 120 lb (55 kg) typical with two 7.5 I tank Weight − PR70 150 kg) typical with two 60 I tank Weight − PR70 160 kg) typical with two 60 I tank Weight − PR70e 100 lb (46 kg) typical with two 60 I tank Compressed Air  100 lb (46 kg) typical with two 60 I tank Compressed Air    Electrical Power 100 -240V 50/60Hz 1 phase for machine − 80 watts 208−240V 50/60Hz 1 phase for heat − 10 kW man 120 or 240V 50/60Hz 1 phase for on-board agitators Instruction Manuals PR70 with Display Module Operation & Maintenance 31239 PR70 Models with Advanced Display Module 31256 Repair and Parts 31239 PR70 Integrated Heat 31239	Ratios (fixed). 1:1 to 12:1 depending on cylinders selecte Ratios (variable) 1:1 to 24:1 depending on cylinders selecte Ratios (variable) 1:1 to 24:1 depending on cylinders selecte Maximum Fluid Working Pressure 3000 psi (207 bar, 20.7 MP Maximum Cycle Rate 100 psi (7 bar, 0.7 MP Maximum Operating Temperature 70° C (160° F) nylon pistor So° C (120° F) UHMWPE pistons or PE tant Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tant Air Inlet Size 50° C (120° F) UHMWPE pistons or PE tant Air Inlet Size 70, -04, -06, -08 or -12 JIC fittings for 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hoss Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF Weight − PR70 120 lb (55 kg) typical with two 7.5 I tank 300 lb (150 kg) typical with two 7.5 I tank 300 lb (150 kg) typical with two 60 I tank Weight − PR70 160 lb (73 kg) typical with two 60 I tank Weight − PR70e 100 lb (46 kg) typical with two 60 I tank Weight − PR70e 100 lb (46 kg) typical with two 60 I tank 100 lb (46 kg) typical with 100 lb (46 kg) typical with 100 lb (46 kg) typical with 100 lb (46 kg)		·
Ratios (variable) 1:1 to 24:1 depending on cylinders selecte  Maximum Fluid Working Pressure 3000 psi (207 bar, 20.7 MPa  Maximum Air Input Pressure 100 psi (7 bar, 0.7 MPa  Maximum Cycle Rate 30 cpr  Maximum Operating Temperature 70° C (160° F) nylon piston  50° C (120° F) UHMWPE pistons or PE tank  Air Inlet Size 703, −04, −06, −08 or −12 JIC fittings for  3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose  Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP  Weight − PR70 120 lb (55 kg) typical with two 7.5 I tank  Weight − PR70 160 lb (73 kg) typical with two 60 I tank  Weight − PR70 100 lb (46 kg) typical with two 60 I tank  Weight − PR70 100 lb (46 kg) typical with two 60 I tank  Compressed Air 700 100 lb (46 kg) typical with two 60 I tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 100 lb (46 kg) typical without tank  Compressed Air 700 lb (46 kg) typical without tank  Compressed Air 700 lb (46 kg) typical without tank  Compressed Air 700 lb (46 kg) typical without tank  Compressed Air 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg) typical with two 60 I tank  Weight 700 lb (46 kg)	Ratios (variable)       1:1 to 24:1 depending on cylinders selects         Maximum Fluid Working Pressure       3000 psi (207 bar, 20.7 MP         Maximum Air Input Pressure.       100 psi (7 bar, 0.7 MP         Maximum Oycle Rate       30 cp         Maximum Operating Temperature       70° C (160° F) nylon pistor         50° C (120° F) UHIMWPE pistons or PE tank         Air Inlet Size       1/4 NPT         Pump Fluid Outlet Size       -03, -04, -06, -08 or -12 JIC fittings for all (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tank         Weight − PR70v       160 lb (73 kg) typical with two 60 I tank         Weight − PR70e       100 lb (46 kg) typical with two 60 I tank         Compressed Air          Electrical Power       100 lb (46 kg) typical with two 60 I tank         Instruction Manuals       100-240V 50/60Hz 1 phase for machine - 80 watt         PR70 with Display Module Operation & Maintenance       31239         PR70 Models with Advanced Display Module       31275         Feed System       31239         PR70 Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Valve Instructions		
Maximum Fluid Working Pressure       3000 psi (207 bar, 20.7 MPa         Maximum Air Input Pressure.       100 psi (7 bar, 0.7 MPa         Maximum Cycle Rate       30 cpr         Maximum Operating Temperature       70° C (160° F) ylln priston         50° C (120° F) UHMWPE pistons or PE tank         Air Inlet Size       1/4 NPT(i         Pump Fluid Outlet Size       -03, -04, -06, -08 or -12 JIC fittings for         3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts.       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tank         330 lb (150 kg) typical with two 60 I tank         Weight − PR70e       100 lb (73 kg) typical with two 60 I tank         Weight − PR70e       100 lb (46 kg) typical with two 60 I tank         Compressed Air       < 10 scfm typical (varies with cycle time	Maximum Fluid Working Pressure       3000 psi (207 bar, 20.7 MP         Maximum Air Input Pressure.       100 psi (7 bar, 0.7 MP         Maximum Cycle Rate       30 cp         Maximum Operating Temperature       70° C (160° F) pylon pistor         50° C (120° F) UHMWPE pistons or PE tant         Air Inlet Size.       1/4 NPT         Pump Fluid Outlet Size       -03, -04, -06, -08 or -12 JIC fittings f         3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts.       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tank         330 lb (150 kg) typical with two 60 I tank         Weight − PR70e       100 lb (73 kg) typical with two 60 I tank         Compressed Air          Electrical Power       100 -240V 50/60Hz 1 phase for machine −80 watt         208-240V 50/60Hz 1 phase for on-board agitator         Instruction Manuals       120 or 240V 50/60Hz 1 phase for on-board agitator         Instruction & Maintenance       31239         PR70 Models with Advanced Display Module       31275         Feed System       31239         PR70 Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Val		
Maximum Air Input Pressure.       100 psi (7 bar, 0.7 MPa         Maximum Cycle Rate       30 cpr         Maximum Operating Temperature       70° C (160° F) nylon piston         50° C (120° F) UHMWPE pistons or PE tank         Air Inlet Size       1/4 NPT(Pump Fluid Outlet Size         93/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tank         330 lb (150 kg) typical with two 60 I tank         Weight − PR70v       160 lb (73 kg) typical with two 60 I tank         Weight − PR70e       100 lb (46 kg) typical with two 60 I tank         Compressed Air          Compressed Air          Electrical Power       100-240V 50/60Hz 1 phase for machine − 80 watts         208-240V 50/60Hz 1 phase for neathine − 80 watts         208-240V 50/60Hz 1 phase for on-board agitators         Instruction Manuals       120 or 240V 50/60Hz 1 phase for neathine − 80 watts         PR70 with Display Module Operation & Maintenance       31239         PR70 Models with Advanced Display Module       31239         PR70 Integrated Heat       312394         PR70 Integrated Heat       312394	Maximum Air Input Pressure.       100 psi (7 bar, 0.7 MP         Maximum Cycle Rate       30 cp         Maximum Operating Temperature       70° C (160° F) nylon pistor         Air Inlet Size.       50° C (120° F) UHMWPE pistons or PE tanh         Pump Fluid Outlet Size.       -03, -04, -06, -08 or -12 JIC fittings for 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts.       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tanh         330 lb (150 kg) typical with two 60 I tanh         Weight − PR70e       100 lb (73 kg) typical with two 60 I tanh         Compressed Air       100 lb (46 kg) typical with two 60 I tanh         Electrical Power       100 lb (46 kg) typical with two 60 I tanh         Lectrical Power       100 lb (46 kg) typical with two 60 I tanh         Lectrical Power       100 lb (46 kg) typical with two 60 I tanh         Lectrical Power       100 lb (46 kg) typical with two 60 I tanh         Lectrical Power       100 lb (46 kg) typical without tanh         Compressed Air       < 10 scfm typical (varies with cycle time		
Maximum Cycle Rate       30 cpr         Maximum Operating Temperature       70° C (160° F) nylon piston         50° C (120° F) UHMWPE pistons or PE tank         Air Inlet Size       1/4 NPT(         Pump Fluid Outlet Size       -03, -04, -06, -08 or -12 JIC fittings fo         3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight − PR70       120 lb (55 kg) typical with two 60 I tank         Weight − PR70e       160 lb (73 kg) typical with two 60 I tank         Compressed Air       < 10 scfm typical (varies with cycle time	Maximum Cycle Rate	· ·	
Maximum Operating Temperature       70° C (160° F) nylon piston         50° C (120° F) UHMWPE pistons or PE tank         Air Inlet Size       1/4 NPT(         Pump Fluid Outlet Size       -03, -04, -06, -08 or -12 JIC fittings for         3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose         Wetted Parts.       303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP         Weight − PR70       120 lb (55 kg) typical with two 7.5 I tank         Weight − PR70v       160 lb (73 kg) typical with two 60 I tank         Weight − PR70e       100 lb (46 kg) typical with two 60 I tank         Compressed Air       < 10 scfm typical (varies with cycle time	Maximum Operating Temperature 70° C (160° F) nylon pistor 50° C (120° F) UHMWPE pistons or PE tank Air Inlet Size 1/4 NPT Pump Fluid Outlet Size -03, -04, -06, -08 or -12 JIC fittings f 3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) host Wetted Parts 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical restant 0-rings, PTFE, nylon, UHMWF Weight − PR70 120 lb (55 kg) typical with two 7.5 I tank 330 lb (150 kg) typical with two 60 I tank Weight − PR70 160 lb (73 kg) typical with two 60 I tank Weight − PR70e 100 lb (46 kg) typical with two 60 I tank Compressed Air <10 scfm typical (varies with cycle time Electrical Power 100-240V 50/60Hz 1 phase for machine −80 watt 208−240V 50/60Hz 1 phase for neat −10 kW ma 120 or 240V 50/60Hz 1 phase for on-board agitator Instruction Manuals PR70 with Display Module Operation & Maintenance 31239 PR70 Models with Advanced Display Module 31275 Repair and Parts 31239 PR70 Integrated Heat 31239 PR70 Integrated Heat 31239 PR70 Integrated Heat 31239 PR70 Integrated Heat 31236 PR70e Operation & Maintenance 33413 MD2 Valve Instructions and Parts 31218	·	
Air Inlet Size	Air Inlet Size		
Pump Fluid Outlet Size	Pump Fluid Outlet Size	3 7 7	
3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose  Wetted Parts. 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP  Weight − PR70 120 ib (55 kg) typical with two 7.5 I tank  330 ib (150 kg) typical with two 60 I tank  Weight − PR70v 160 ib (73 kg) typical with two 7.5 I tank  370 ib (168 kg) typical with two 60 I tank  Weight − PR70e 100 ib (46 kg) typical without tank  Compressed Air < 10 scfm typical (varies with cycle time  Electrical Power 100 -240V 50/60Hz 1 phase for machine − 80 watts  208−240V 50/60Hz 1 phase for heat − 10 kW max  120 or 240V 50/60Hz 1 phase for on-board agitators  Instruction Manuals  PR70 with Display Module Operation & Maintenance 312393  PR70 Models with Advanced Display Module 312756  Feed System 312394  PR70v Integrated Heat 312766  PR70e Operation & Maintenance 334135  MD2 Valve Instructions and Parts. 312185	3/16 in (4.8 mm), 1/4 in (6.4 mm), 3/8 in (9.5 mm), 1/2 in (12.7 mm), 3/4 in (19.1 mm) hose Wetted Parts. 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF Weight − PR70 120 lb (55 kg) typical with two 7.5 I tank 330 lb (150 kg) typical with two 60 I tank Weight − PR70 160 lb (73 kg) typical with two 60 I tank Weight − PR70e 100 lb (46 kg) typical with two 60 I tank Compressed Air < 10 scfm typical (varies with cycle time Electrical Power 100-240V 50/60Hz 1 phase for machine − 80 watt 208−240V 50/60Hz 1 phase for heat − 10 kW ma 120 or 240V 50/60Hz 1 phase for on-board agitator Instruction Manuals PR70 with Display Module Operation & Maintenance 31239 PR70 Models with Advanced Display Module 31275 Repair and Parts 31276 Feed System 31239 PR70V Integrated Heat 31239 PR70V Integrated Heat 31276 PR70e Operation & Maintenance 33413 MD2 Valve Instructions and Parts 31218	Air Inlet Size	
Wetted Parts. 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWP Weight − PR70 . 120 lb (55 kg) typical with two 7.5 l tank 330 lb (150 kg) typical with two 60 l tank Weight − PR70v . 160 lb (73 kg) typical with two 60 l tank Weight − PR70e . 100 lb (46 kg) typical without tank Compressed Air . < 10 scfm typical (varies with cycle time Electrical Power . 100-240V 50/60Hz 1 phase for machine − 80 watts 208−240V 50/60Hz 1 phase for neat − 10 kW max 120 or 240V 50/60Hz 1 phase for on-board agitators Instruction Manuals PR70 with Display Module Operation & Maintenance . 312393 PR70 Models with Advanced Display Module . 312759 Repair and Parts 312766 Feed System . 312394 PR70v Integrated Heat . 312761 PR70e Operation & Maintenance . 334135 MD2 Valve Instructions and Parts 312185	Wetted Parts. 303/304, 17-4 PH, hard chrome, Chromex™, carbide, chemical resistant 0-rings, PTFE, nylon, UHMWF Weight − PR70. 120 lb (55 kg) typical with two 7.5 l tank 330 lb (150 kg) typical with two 60 l tank Weight − PR70v. 160 lb (73 kg) typical with two 60 l tank Weight − PR70e. 370 lb (168 kg) typical with two 60 l tank Weight − PR70e. 100 lb (46 kg) typical without tank Compressed Air 100 cmpressed Air 100 cmpress	•	ACCUPATION OF THE PROPERTY OF
Weight – PR70       120 lb (55 kg) typical with two 7.5 l tank         330 lb (150 kg) typical with two 60 l tank         Weight – PR70v       160 lb (73 kg) typical with two 7.5 l tank         370 lb (168 kg) typical with two 60 l tank         Weight – PR70e       100 lb (46 kg) typical with out tank         Compressed Air       < 10 scfm typical (varies with cycle time	Weight – PR70       120 lb (55 kg) typical with two 7.5 l tanh         330 lb (150 kg) typical with two 60 l tanh       330 lb (150 kg) typical with two 60 l tanh         Weight – PR70v       160 lb (73 kg) typical with two 60 l tanh         Weight – PR70e       100 lb (46 kg) typical with two 60 l tanh         Compressed Air       < 10 scfm typical (varies with cycle time)		
330 lb (150 kg) typical with two 60 l tank	Weight - PR70v		
Weight – PR70v 160 lb (73 kg) typical with two 7.5 l tank 370 lb (168 kg) typical with two 60 l tank Weight – PR70e 100 lb (46 kg) typical without tank Compressed Air  100 lb (46 kg) typical without tank Compressed Air  < 10 scfm typical (varies with cycle time Electrical Power 100-240V 50/60Hz 1 phase for machine – 80 watts 208–240V 50/60Hz 1 phase for heat – 10 kW man 120 or 240V 50/60Hz 1 phase for on-board agitators Instruction Manuals PR70 with Display Module Operation & Maintenance 312393 PR70 Models with Advanced Display Module 312756 Repair and Parts 312766 Feed System 312394 PR70v Integrated Heat 312761 PR70e Operation & Maintenance 334136 MD2 Valve Instructions and Parts 312186	Weight – PR70v       160 lb (73 kg) typical with two 7.5 l tank         370 lb (168 kg) typical with two 60 l tank         Weight – PR70e       100 lb (46 kg) typical without tank         Compressed Air       < 10 scfm typical (varies with cycle time	Weight – PR70	
Weight – PR70e	Weight – PR70e	Will DD70	
Weight – PR70e	Weight – PR70e	weight – PR/0V	
Compressed Air < 10 scfm typical (varies with cycle time Electrical Power 100-240V 50/60Hz 1 phase for machine – 80 watts 208–240V 50/60Hz 1 phase for heat – 10 kW max 120 or 240V 50/60Hz 1 phase for on-board agitators Instruction Manuals  PR70 with Display Module Operation & Maintenance 312393  PR70 Models with Advanced Display Module 312759  Repair and Parts 312760  Feed System 312394  PR70v Integrated Heat 312761  PR70e Operation & Maintenance 334135  MD2 Valve Instructions and Parts 312185	Compressed Air < 10 scfm typical (varies with cycle times between the cycle times). The compressed Air selectrical Power 100-240V 50/60Hz 1 phase for machine – 80 watt 208–240V 50/60Hz 1 phase for heat – 10 kW mate 120 or 240V 50/60Hz 1 phase for on-board agitator linstruction Manuals  PR70 with Display Module Operation & Maintenance 31239  PR70 Models with Advanced Display Module 31275  Repair and Parts 31276  Feed System 31239  PR70v Integrated Heat 31276  PR70e Operation & Maintenance 33413  MD2 Valve Instructions and Parts 31218	Weight DD70a	
Electrical Power	Electrical Power		
208–240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for on-board agitators 1200 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for heat – 10 kW may 120 or 240V 50/60Hz 1 phase for on-board agitators 120 or 240V 50/60Hz 1 phase for on	208–240V 50/60Hz 1 phase for heat – 10 kW ma 120 or 240V 50/60Hz 1 phase for on-board agitator Instruction Manuals  PR70 with Display Module Operation & Maintenance		
Instruction Manuals PR70 with Display Module Operation & Maintenance	Instruction Manuals       31239         PR70 with Display Module Operation & Maintenance       31239         PR70 Models with Advanced Display Module       31275         Repair and Parts       31276         Feed System       31239         PR70v Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Valve Instructions and Parts       31218		
PR70 with Display Module Operation & Maintenance 312393 PR70 Models with Advanced Display Module 312759 Repair and Parts. 312760 Feed System 312394 PR70v Integrated Heat 312761 PR70e Operation & Maintenance 334135 MD2 Valve Instructions and Parts 312185	PR70 with Display Module Operation & Maintenance 31239 PR70 Models with Advanced Display Module 31275 Repair and Parts. 31276 Feed System 31239 PR70v Integrated Heat 31276 PR70e Operation & Maintenance 33413 MD2 Valve Instructions and Parts 31218		120 or 240V 50/60Hz 1 phase for on-board agitators
PR70 Models with Advanced Display Module       312759         Repair and Parts       312760         Feed System       312394         PR70v Integrated Heat       312761         PR70e Operation & Maintenance       334135         MD2 Valve Instructions and Parts       312185	PR70 Models with Advanced Display Module       31275         Repair and Parts.       31276         Feed System       31239         PR70v Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Valve Instructions and Parts       31218		210000
Repair and Parts.       312760         Feed System       312394         PR70v Integrated Heat       312761         PR70e Operation & Maintenance       334135         MD2 Valve Instructions and Parts       312185	Repair and Parts.       31276         Feed System       31239         PR70v Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Valve Instructions and Parts       31218		
Feed System       312394         PR70v Integrated Heat       312761         PR70e Operation & Maintenance       334135         MD2 Valve Instructions and Parts       312185	Feed System       31239         PR70v Integrated Heat       31276         PR70e Operation & Maintenance       33413         MD2 Valve Instructions and Parts       31218		
PR70v Integrated Heat	PR70v Integrated Heat		
PR70e Operation & Maintenance	PR70e Operation & Maintenance		
MD2 Valve Instructions and Parts	MD2 Valve Instructions and Parts		
	PR70 machines and complete contigured packages carry the CE mark.		