

IRMCO® HARDWARE
LUBRICANT MIXING EQUIPMENT



SYSTEM	DESCRIPTION	PICTURE
IRMCO BLEND	Low End but reliable batch mixing. System piston is driven by water flow. Multiple models for different ratio ranges	
PRO MIX I	Low End mixer with ratio controlled mixing and pressurized distribution. Designed to automatically mix smaller amounts and distribute to a few presses with little to no monitoring or sensors.	
PRO MIX III	Middle End mixer with automatic ratio control and pressurized distribution. This system has a larger capacity and fluid level monitors. Low level alarm and ratio display are also included.	
PRO MIX V	High End mixer with automatic ratio control and pressurized distribution. This model is a turnkey system which includes the larger capacity, multiple fluid level monitors and alarms. Display shows ratio and total usage.	

To request a formal quote including firm pricing and payment terms, contact your IRMCO representative or contact IRMCO directly at 800.323.2933 or by email at contactus@irmco.com.



SPECIFICATIONS

The PRO-MIX I lubricating system is manufactured to thoroughly mix lubricant concentrate with water to the desired mixture, and distribute the mixture to a few presses. Each press coupled to the network will receive a continuous supply of pressurized lubricant. The following outline defines the FUNCTION, SYSTEM COMPONENTS, SAFETY FEATURES, and COST of the system.

PRO-MIX I LUBRICATING SYSTEM COMPONENTS

1. Patented PRO-DRIVE Assembly used to precisely and thoroughly mix the two materials - Components include-Constant output chemical concentrate pump - Variable out put water mixing pump - Vari-Drive speed transmission - Electric motor - Necessary plumbing and piping.
2. Dual Stainless Steel Reservoirs used to stabilize the lubricant concentrate and water prior to mixing. The reservoirs refill automatically by means of gravity utilizing mechanical ball float switches.
3. Ratio Adjustment Control Dial. A ratio adjustment dial located in the Vari-Drive controls the speed of the water-mixing pump. By adjusting the control dial ANY mix mixture ratio can be produced within the mixing limits of the system.
4. Electrical package which include a THREE PHASE industrial duty motor, disconnect fusing and over load protection.

UNIQUE CHARACTERISTICS

1. MIXTURE TESTING FEATURE. The ratio testing function is used to mechanically test the mixture being produced by the machine. The test takes only minutes to perform and does not require the machine to be taken OFF-LINE.
2. ONLY the AMOUNT of WATER can be varied in the mixture. Greater process control is attained through the best possible mixture stability.
3. Mechanical coupling of the TWO system pumps for absolute MIXTURE STABILITY and MIXTURE CONTROL.
4. ONE THREE PHASE 1.5 HP MOTOR controls the entire machine's mixing functions.

The PRO-MIX I lubricating systems extract the lubricant concentrate from a 55 gallon drum, multi-drum tote by means of gravity, or can be manufactured to, upon demand, refill from centrally located pressurized source. Each lubricating system includes a water reservoir that automatically refills upon demand. The water reservoir stabilizes the water pressure prior to the mixing sequence and is used as a vacuum break between the water supply and PRO-MIX unit. Additionally, each system assembled on a floor mounted steel platform.

The PRO-MIX I lubricating system includes ALL of the standard features of our larger systems on a smaller scale. The PRO-MIX I is manufactured to thoroughly mix within the mixture range of unit and pressurize the mixture for automated delivery of the mix to the production machinery. The PRO-MIX I lubricating system will automatically cycle ON as required pressurizing the mixture with in the mixture reservoir. The reservoir is coupled to all of the production machinery requiring lubricant.

MIXTURE RATIO RANGES DEFINED AS WATER TO LUBE (i.e. 5:1 = 5 water to 1 lube)

- (A) 1:1 to 4:1
- (B) 3:1 to 10:1
- (C) 6:1 to 20:1
- (D) 10:1 to 30:1
- (E) 20:1 to 60:1
- (F) 30:1 to 90:1
- (G) 50:1 to 150:1

The preferred method of choosing a mixture ratio is by determining the mixture you require and choosing the range to the left that will produce the mixture at 50/50 of the scale. For example, if you would like a 40:1 ratio, then you would select a range of 20:1 to 60:1.

All work will be performed in a workman like manner using Top Quality component parts and construction methods.

The lubricating system has a ONE Year Parts Warranty, and is shipped complete tested, and preset to meet your operational criteria.



SPECIFICATIONS

The PRO-MIX III lubricating system is manufactured to thoroughly mix lubricant concentrate with water to the desired mixture, and distribute the mixture to each press through an in-plant piping network. Each press coupled to the network will receive a continuous supply of pressurized lubricant. Additionally, the lubricating systems can be manufactured to supply TWO or THREE different mixtures of the lubricant concentrate to each press. The following outline defines the FUNCTION, SYSTEM COMPONENTS, SAFETY FEATURES, and COST of the system.

PRO-MIX III LUBRICATING SYSTEM COMPONENTS

1. Dual Stainless Steel Liquid Reservoirs (Water and Lube Concentrate) used to stabilize the liquids prior to mixing. Support systems of the reservoirs include: Automatic Liquid Refill Systems (Solenoid Valve/WATER) (Gravity/LUBE CONCENTRATE). SEE Note in Specifications.
2. Fluid Level Supervisory System. Fluid level monitors located within the system reservoirs continuously monitor the level of the two materials. These monitors are used to refill the water reservoir on demand, and to discontinue the machine's service and/or activate the alarm if a dangerous low material level develops during the systems operation.

3. Patented PRO-DRIVE Assembly used to thoroughly mix, control, and pressurize if necessary the mixture. Components include: Vari-Drive Transmission, Drive Motor, Pump Network, and Mixture Transducer.
4. Mixture Ratio Display that displays the mixture being produced by the machine. The display will activate when the PRO-MIX is mixing lubricant and 0 at idle.
5. Mixed Material Distribution System distributes the mixed material. The distribution system pressurizes the mixed material for automated distribution to the production machinery through an In-plant piping network.
6. Electrical and Electronic Package used for system control and process monitoring - Components include: Support Electrical Apparatus, System PLC, Mixture Display, and Operators Interface.
7. System ALARM and Diagnostic Indicator. The system includes an Audible/Visual Alarm that activates if a system problem develops, and a process diagnostic indicator that identifies a lubricant concentrate supply empty condition.

SAFETY FEATURES ENSURED BY ACCURATE METERING SYSTEMS

1. Low WATER Level Sensor that will discontinue the machine's service if a DANGEROUS Low Level is detected.
2. Lubricant Concentrate Supply Supervision that will alert the system's operator to a supply out condition. This safety alarm will NOT discontinue the machine's service.
3. High Pressure Supervision that will discontinue the machine's service if a DANGEROUS High Pressure is detected.
4. Mechanical Pressure Relief to insure protection if the high pressure safety switch fails.
5. In Plant Piping Supervision that will discontinue the machines service if a delivery line fails.
6. Audible/Visual Alarm System consisting of a RED flashing strobe light and horn that activates if a process problem develops.
7. Diagnostic Indicator used to identify a Lubricant Concentrate SUPPLY EMPTY condition.

UNIQUE CHARACTERISTICS

1. MIXTURE TESTING FEATURE. The Mixture Testing function is used to mechanically test the mixture being produced by the machine. The test takes only minutes to perform and does not require the machine to be taken OFF-LINE.
2. All of the machine functions are controlled and monitored by system's Allen Bradley MicroLine 1000 PLC.
3. ONLY the AMOUNT of WATER can be varied in the mixture. Greater process control is attained through the utmost in mixture stability.
4. Mechanical coupling of the TWO system pumps for absolute MIXTURE CONTROL.
5. ONE 3/PHASE 1.5 HP INDUSTRIAL MOTOR controls all of the machine's mixing functions.

6. Through a simple modification the PRO-MIX III can be adapted to a variety of mixture ranges.
7. AUDIBLE/VISUAL Alarm System.

SPECIFICATIONS AND DATA

Electrical = 208/240/480 VAC Three Phase Operational Voltage.

115 VAC Control Voltage.

Total Horse Power = 1.5 HP.

Electronic = Machine Control = Allen Bradley Micro-1000. Mixture display = Red Lion Control.

Mechanical = Lube Concentrate Holding Capacity = 20 Gallons.

Water Holding Capacity = 20 Gallons.

Mixture Output = 50 Gallons per Hour.

Ratio Range = Customer Dependent.

Pressure Range to 80 PSI.

Dimensions = Machine Height 50 Inches.

Machine Width 48 Inches. Machine Depth 30 Inches.

NOTE: The PRO-MIX III lubricating system utilizes gravity for the purpose of filling the lubricant concentrate reservoir. We employ TWO methods to accommodate either 55 gallon drums or multi drum totes. For use with drums on drum racks or totes which sit on the floor we fill through a 1 1/4 inch NPT fitting located on the bottom of the reservoir. For totes which are elevated we fill through 1 inch NPT fitting located on the top of the reservoir. Included with the bottom filling style is a check valve which minimizes the loss of lubricant during drum or tote changing. Included with the top filling style is a mechanical float valve located within the reservoir which eliminates over filling of the reservoir.

The machine is purchased ONE of TWO ways. If you chose to fill from the bottom with a tote, the tote MUST be no more than 48 inches in height, or the PRO-MIX must be elevated to eliminate overfilling the reservoir. If you chose to fill from the top with a tote, the tote MUST be elevated more than 50 inches in height to insure proper filling.

MIXTURE RATIO RANGES DEFINED AS WATER TO LUBE (i.e. 5:1 = 5 water to 1 lube)

- (A) 1:1 to 4:1
- (B) 3:1 to 10:1
- (C) 6:1 to 20:1
- (D) 10:1 to 30:1
- (E) 20:1 to 60:1
- (F) 30:1 to 90:1
- (G) 50:1 to 150:1

The preferred method of choosing a mixture ratio is by determining the mixture you require and choosing the range to the left that will produce the mixture at 50/50 of the scale. For example, if you would like a 40:1 ratio, then you would select a range of 20:1 to 60:1.

All work will be performed in a workman like manner using Top Quality lubricating systems components and construction methods. The lubricating system has a ONE Year Parts Warranty, and is shipped complete, tested, and preset to meet your operational criteria.

Supplied with each lubricating system will be an easily interpreted users manual that includes:

1. Installation
2. Operation
3. Safeties Defined
4. Trouble Shooters Guide
5. Electrical Diagram
6. Parts List
7. Machine Layout

OPTIONS are available which include:

1. A 55-gallon floor standing drum rack plumbed into the reservoir.

2. A fabricated steel frame attached to the framework of the PRO-MIX lubricating system, which allows storage of the lubricant concentrate tote ON TOP OF the PRO-MIX. Because totes are manufactured in a variety of configurations, it will be the user's responsibility to plumb from the tote to the PRO-MIX reservoir. The frame work will include a base plate 48x48x1/4 HRSI a top plate 48"x48"x1/4" HRS, with 3x3 angle corner supports and gussets.

TOTAL FRAME DIMENSIONS: H=60 x W=48 x D=48

The mixture pressure tank or accumulator supplied with the PRO-MIX III lubricating system has a capacity of 5 gallons. An optional 25-gallon accumulator can be substituted. The 25 gallon accumulator is identical to the PRO-MIX V lubricating system.

IRMCO® HARDWARE | PRO MIX V



SPECIFICATIONS

The PRO-MIX V lubricating system is manufactured to thoroughly mix lubricant concentrate with water to the desired mixture, and distribute the mixture to each press through an in-plant piping network. Each press coupled to the network will receive a continuous supply of pressurized lubricant. Additionally, the machinery can be manufactured to supply TWO or THREE different mixtures of the lubricant concentrate to each press. The following outline defines the FUNCTION, SYSTEM COMPONENTS, SAFETY FEATURES, and COST of the system.

PRO-MIX LUBRICATING SYSTEM

1. Stainless Steel Liquid Reservoirs (Water and Lube Concentrate) used to stabilize the liquids prior to mixing. Support systems of the reservoirs include: Automatic Liquid Refill Systems (Pump/Valve Assembly).
2. Fluid Level Supervisory System. Fluid level monitors located within the system reservoirs continuously monitor the level of the two materials. These monitors are used to refill the reservoirs on demand, and to discontinue the machine's service if a dangerous low material level develops during the systems operation.

3. Patented PRO-DRIVE Assembly used to thoroughly mix, control, and pressurize if necessary the mixture. Components include: Vari-Drive Transmission, Drive Motor, Pump Network, and Mixture Transducer.
4. Mixture Ratio Display that displays the mixture being produced by the machine. The display will additionally total the volume used during a user selectable period.
5. Mixed Material Distribution System used to distribute the mixed material. The distribution system pressurizes the mixed material for automated distribution to the production machinery through an in-plant piping network.
6. LOCKABLE Ratio Adjustment Control. This control device includes a KEY lockable switch that allows ONLY the personnel with the key access to the mixture adjustment.
7. Electrical and Electronic Package used for system control and process monitoring - Components include: Support Electrical Apparatus, System PLC, Mixture Display, and Operators Interface.
8. System ALARM and Diagnostic Indicators. The system includes an Audible/Visual Alarm that activates if a system problem develops, and process diagnostic indicators that identify the problem area.

MIXTURE RATIO DISPLAY

The MIXTURE RATIO is displayed in whole numbers that represents the mixture being produced as the machine cycles. EXAMPLE: A mixture of 5:1 would be displayed as 5.0. Any change in the mixture ratio would reflect a change in the display. As the mixing cycle has completed the display will LOCK IN the mixture value. The display is coupled to a flow transducer that accurately measures the flow of the WATER in the mixture. Because the PRO-MIX V lubricating system varies only the amount of water in the mixture and mixture changes are made by INCREASING or DECREASING the amount of water only, the displayed value can be held within +/- 1%. Additionally, the display will total the amount of mixture produced over a period of time in gallons. This value is selective and can be reset as required. Because the MIXTURE DISPLAY is manufactured to comply with a variety of applications by Red Lion Controls, additional benefits may be realized. As a standard option the display includes a RS-485 communication loop which can interface with a standard computer system. Pertinent information such as RATIO/VOLUME/TIME/DATES can be transmitted to the computer each cycle of the machine and archived for future reference.

SAFETY FEATURES ENSURED BY ACCURATE METERING SYSTEMS

1. Low Liquid Level Sensors that will discontinue the machine's service if a DANGEROUS Low Level is detected in the system's Water or Lube Concentrate reservoir.
2. High Pressure Supervision that will discontinue the machine's service if a DANGEROUS High Pressure is detected.
3. Mechanical Pressure Relief to insure protection if the high pressure safety switch fails.
4. In Plant Piping Supervision that will discontinue the machines service if a delivery line fails.

5. Lubricant Concentrate Supply Supervision that will alert the system's operator to a supply out condition. This safety alarm will NOT discontinue the machine's service.
6. Audible/Visual Alarm System consisting of a RED flashing strobe light and horn that activates if a process problem develops.
7. Diagnostic Indicators used to identifies a process problem if one occurs including SUPPLY EMPTY.
8. KEY Controlled Ratio Adjustment System allowing only the individuals with the KEY system access. This feature is included on both pressure and non pressure systems.

UNIQUE CHARACTERISTICS

1. MIXTURE TESTING FEATURE. The Mixture Testing function is used to mechanically test the mixture being produced by the machine. The test takes only minutes to perform and does not require the machine to be taken OFF-LINE.
2. All of the machine functions are controlled and monitored by system's Allen Bradley MicroLine 1000 PLC.
3. ONLY the AMOUNT of WATER can be varied in the mixture. Greater process control is attained through the utmost in mixture stability.
4. Mechanical coupling of the TWO system pumps for absolute MIXTURE CONTROL.
5. ONE 3/PHASE 1.5 HP INDUSTRIAL MOTOR controls all of the machine's mixing functions.
6. Through a simple modification the PRO-MIX V can be adapted to a variety of mixture ranges.
7. Diagnostic Displays - Alarm System.

SPECIFICATIONS AND DATA

Electrical = 208/240/480 VAC Three Phase Operational Voltage.
115 VAC Control Voltage.
Total Horse Power = 2.0 HP.

Electronic = Machine Control = Allen Bradley Micro-1000.
Mixture display = Red Lion Control.

Mechanical = Lube Concentrate Holding Capacity = 20 Gallons.
Water Holding Capacity = 20 Gallons.
Mixture Output = 100 Gallons per Hour.
Ratio Range = Customer Dependent.
Pressure Range to 80 PSI.

Dimensions = Machine Height = 50 Inches.
Machine Width = 48 Inches.
Machine Depth = 48 Inches.

MIXTURE RATIO RANGES DEFINED AS WATER TO LUBE (i.e. 5:1 = 5 water to 1 lube)

- (A) 1:1 to 4:1
- (B) 3:1 to 10:1
- (C) 6:1 to 20:1
- (D) 10:1 to 30:1
- (E) 20:1 to 60:1
- (F) 30:1 to 90:1
- (G) 50:1 to 150:1

The preferred method of choosing a mixture ratio is by determining the mixture you require and choosing the range to the left that will produce the mixture at 50/50 of the scale. For example, if you would like a 40:1 ratio, then you would select a range of 20:1 to 60:1.

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Supplied with each lubricating system will be an easily interpreted user's manual that includes:

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7. Machine Layout

OPTION: Certain lubricant concentrates (NON-Synthetic) change viscosity's due to temperature (HOT=Thin / COLDS=THICK). If these types of lubricants are used consistent metering of the material with our positive displacement pumps can be difficult. The consistency of the mixture is proportional to the control of the materials mixed; therefore, if the lubricant concentrate's viscosity varies so will the mixture. In order to maintain a consistent mixture the lubricant concentrate must be stabilized by heating the material to a controlled temperature. SPRA-RITE's optional heating system includes a 3-Phase industrial heater placed in the water reservoir and a 1 inch copper tubing network in the lubricant concentrate reservoir. By means of thermodynamics the heated water is pumped through the piping network heating the lubricant concentrate. This indirect heating will stabilize the lubricant without damage caused by direct heating. The materials temperature is controlled by a thermostat located within the heating element. Additional LOW WATER level protection is provided by the PLC, water level sensor, and a disconnect relay.