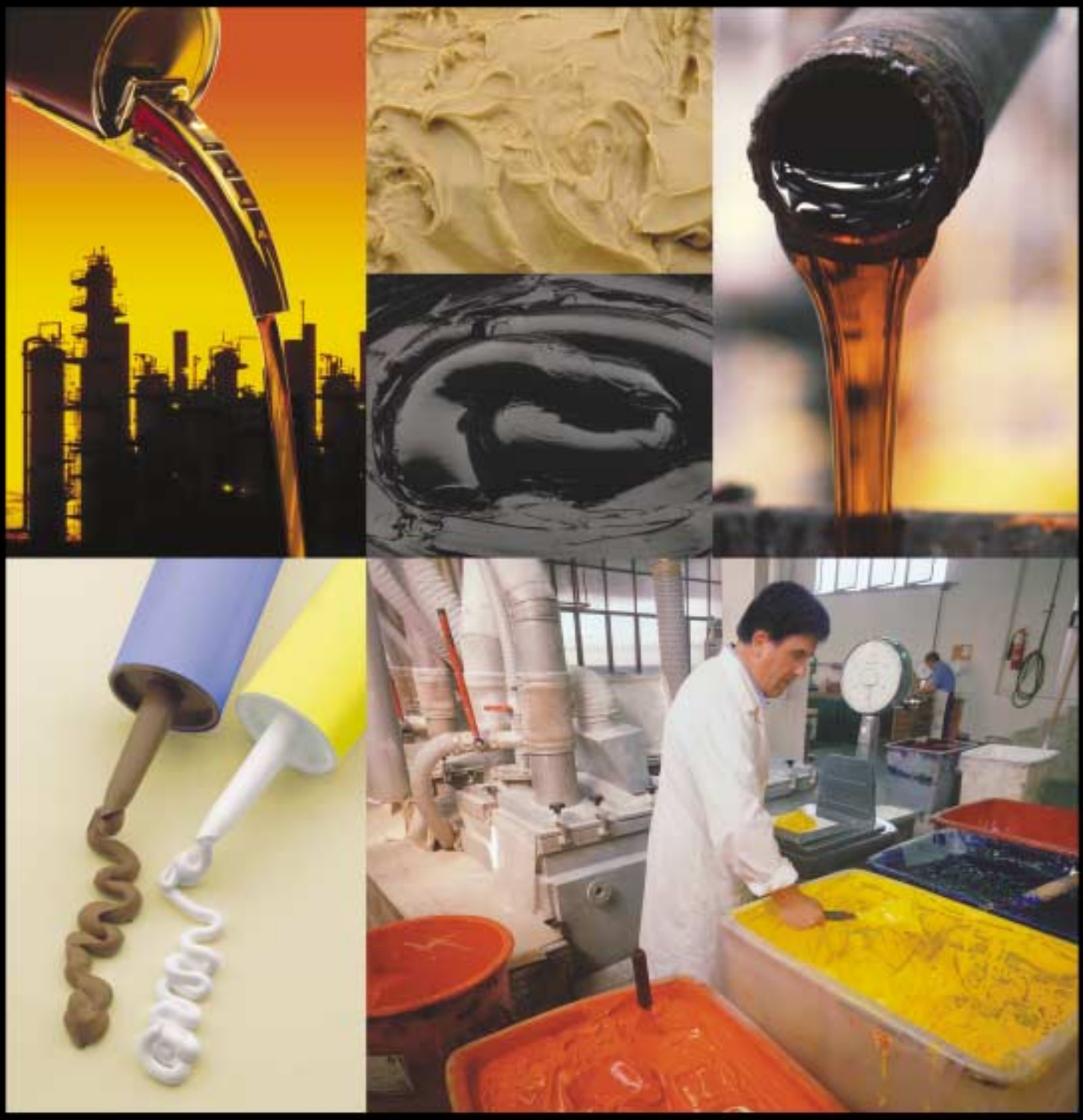


Warren Pumps

JAGUAR 2200 Series

Heavy-Duty, Specialty Screw Pumps

Colfax Pump Group

Two-Screw Team

Warren

JAGUAR 2200 Series
Heavy-Duty, Specialty Screw Pumps

- Capacities to 4800 GPM
- Discharge pressures to 1000 PSI
- Viscosities to 150,000,000 SSU

Advantages

- Flexible Design
- Variety of Material Options
- Accommodates Most Seal Designs
- Hopper-Style Suction Available
- Capable of handling shear sensitive fluids

Applications

- **Chemical Process Industry** polymers, synthetic fibers
- **Petroleum Industry** asphalt, vacuum bottoms, residuals, crude oils
- **General Industry** food, power, barges

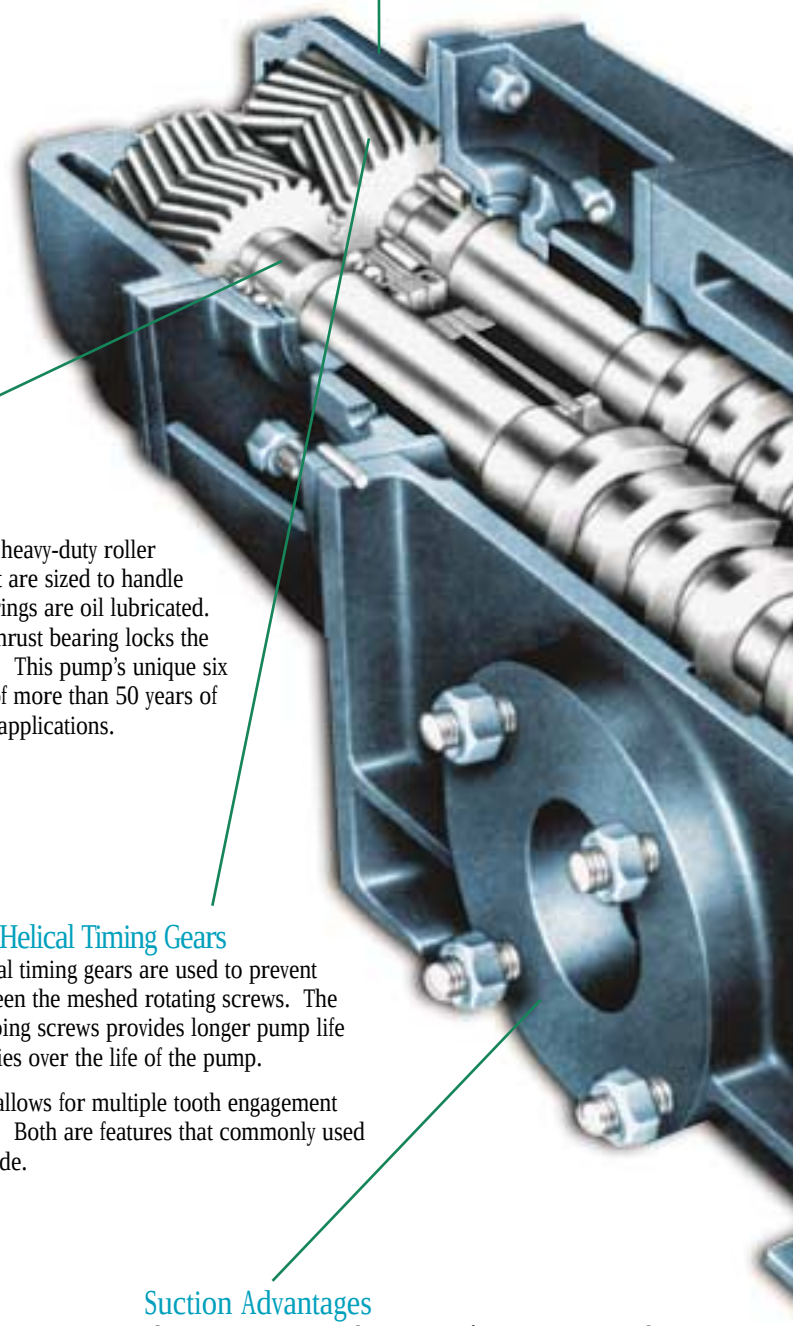
Options

- Iron, Cast Steel, Stainless Steel Casing
- Chrome Plated Bores
- Hard Fused Coating on Rotors
- Nitrided Timing Gears
- External Seal Lubrication
- General Compliance with API676

Typical hopper style Jaguar suitable for mounting beneath a reactor.

Back Pull Out

Rotor removes for inspection or repair without disturbing piping or driver. One-craft maintenance.



Bearings

Radial loading is handled by heavy-duty roller bearings at five locations that are sized to handle maximum loads. These bearings are oil lubricated. The heavy-duty double-row thrust bearing locks the drive shaft in position axially. This pump's unique six bearing design is the result of more than 50 years of experience in high pressure applications.

Hardened Steel Double Helical Timing Gears

Hardened steel double helical timing gears are used to prevent metal-to-metal contact between the meshed rotating screws. The clearance between the pumping screws provides longer pump life and higher average efficiencies over the life of the pump.

The double helical concept allows for multiple tooth engagement and prevents screw flanking. Both are features that commonly used spur-type gears cannot provide.

Suction Advantages

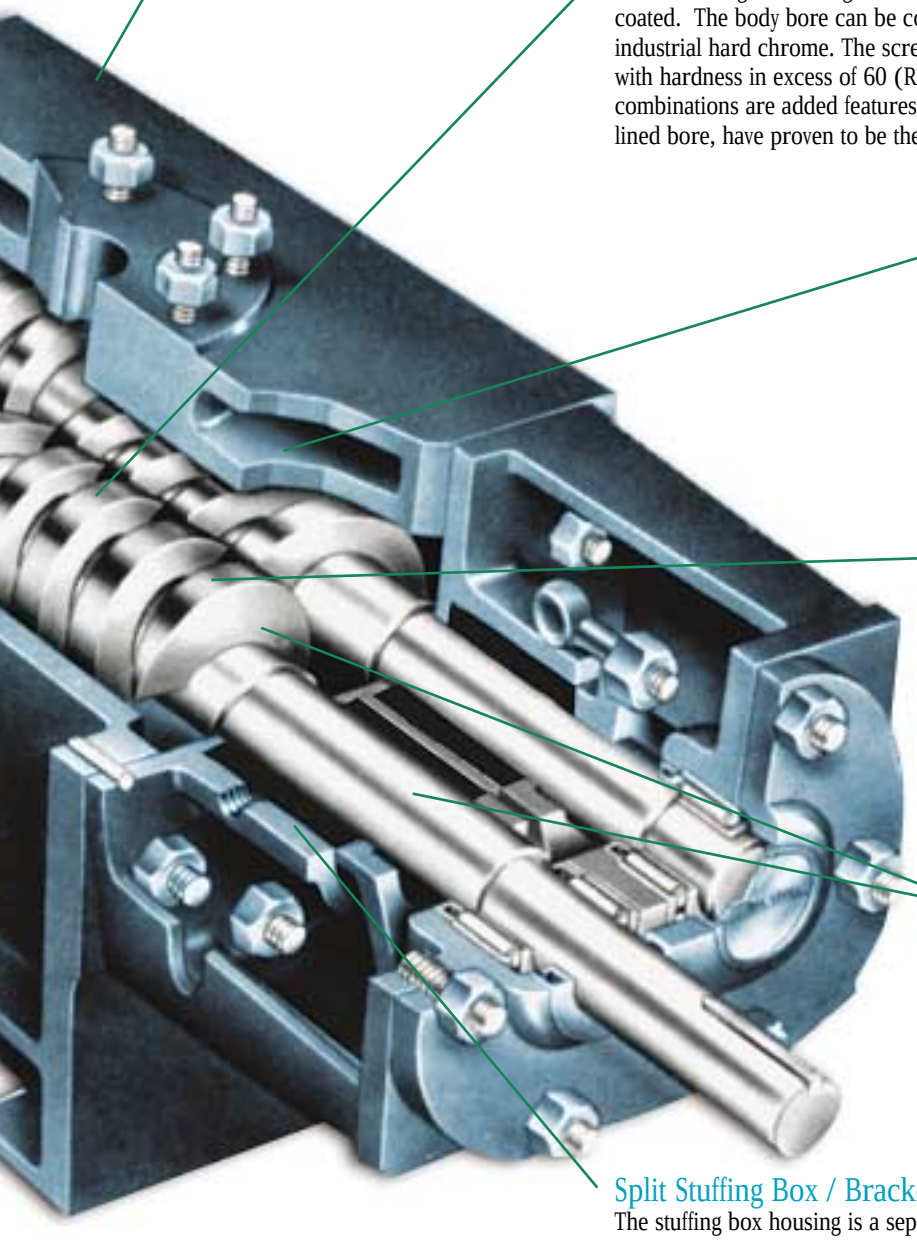
These pumps come with a variety of suction options. These include center-suction, hopper suction, high-pressure suction and extending the screws into the suction features. This accommodates a wide range of process variations such as low NPIPR and high suction pressure. Also, the top suction hopper design allows for direct connection to the bottom of the tanks or reactors.

Body

The solid cast body is generously ribbed and has thick cross sections resulting in increased rigidity. The suction flow passage is designed to provide a constant area from the flange opening to the screw entrance allowing for the best NPSH capabilities of any similarly sized pump.

Wear Protection

To insure long life in tough services, the critical pumping surfaces are coated. The body bore can be coated with an electrolytically applied industrial hard chrome. The screws can have a variety of OD coatings with hardness in excess of 60 (Rockwell C). Nitriding and other coating combinations are added features that, when combined with the chrome lined bore, have proven to be the best wear protection in the industry.



Jacketing

Optional jacketing of the pump body and stuffing box housing is available for circulation of steam or thermal fluids. The suction passages, bore walls, and discharge areas are enclosed to ensure uniform temperature distribution. Connections are supplied for inlet and outlet circulation.

High Efficiency Screw Profile

Having mastered the manufacture of pumping screws, Warren can offer the 2200 Series in a variety of screw pitches, and combined with the "QNS" screw profile offers the highest efficiency twin screw pump in the industry. This is as a result of over 50 years of manufacturing and testing performed on our test stands and in field conditions.

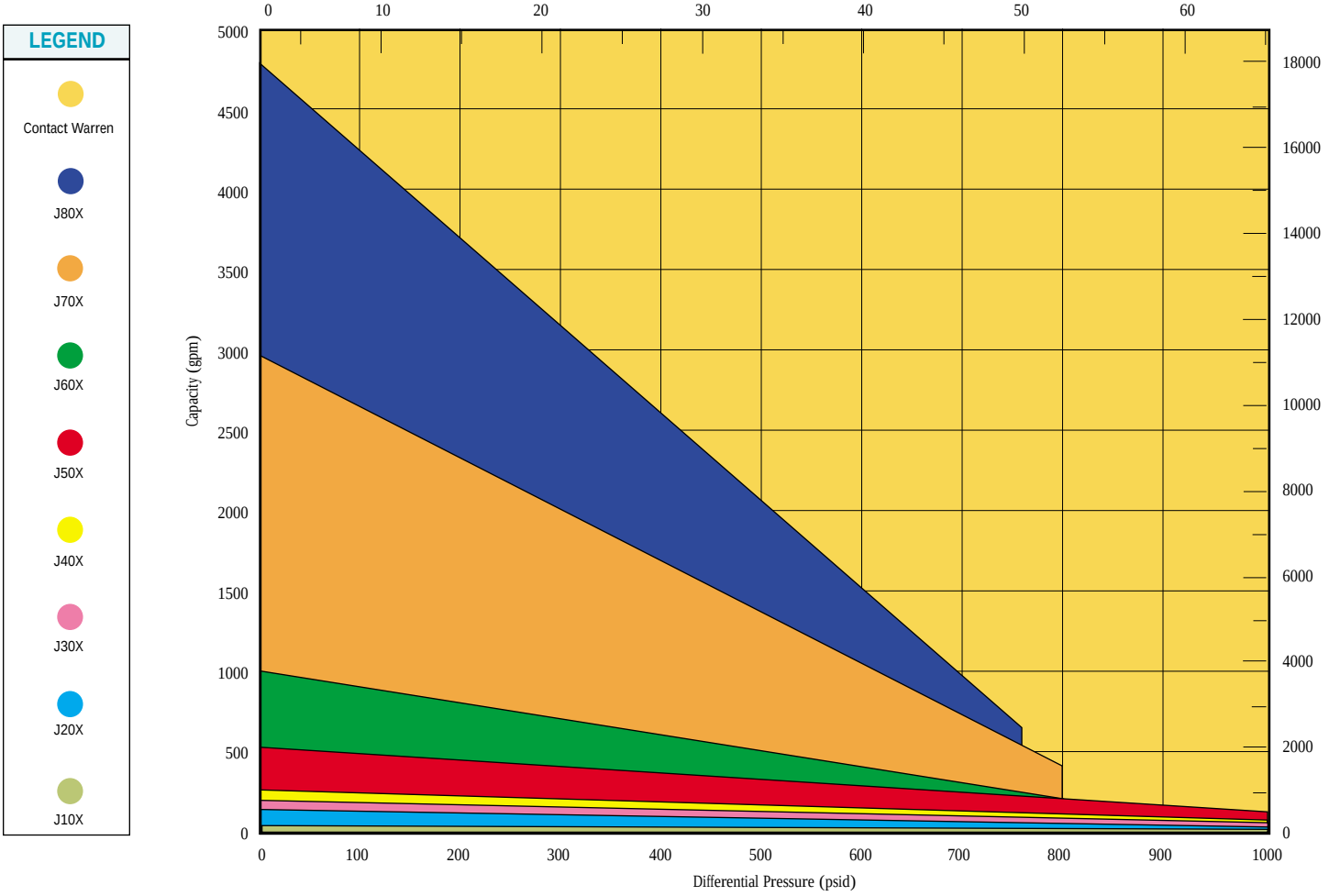
Integral Screw and Shaft

Each rotor is of an integral design, meaning that the entire screw and shaft is machined out of one piece of material, allowing for maximum rigidity and stiffness. This minimizes shaft deflection, an important consideration in high-pressure pumps.

Split Stuffing Box / Bracket (Not Shown)

The stuffing box housing is a separate bracket. This design is large enough to accommodate a wide variety of seal makes and designs, and also allows for greater access to the stuffing boxes during assembly or maintenance. The mechanical seals can be installed or inspected without obstruction.

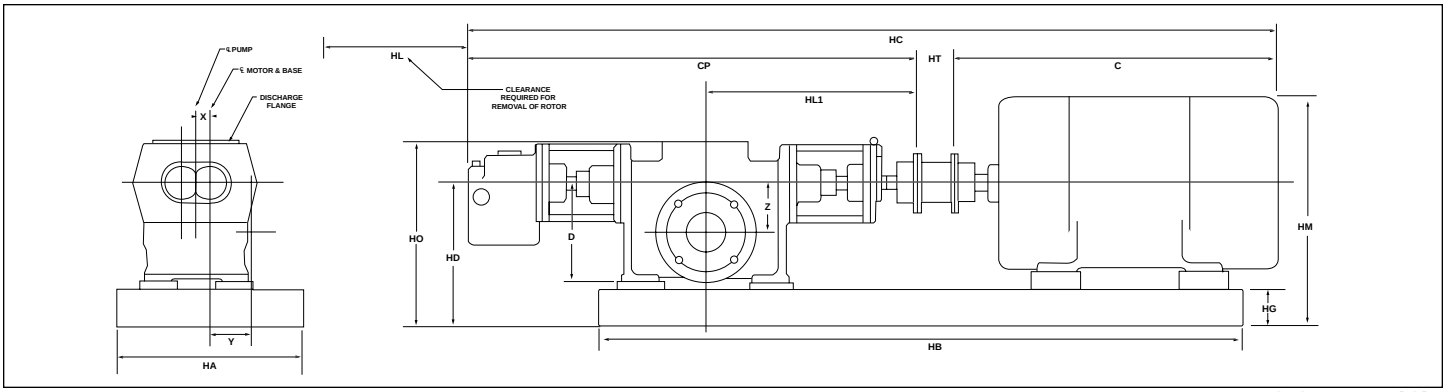
JAGUAR Quick Selection Chart



Approximate Dimensions

PUMP SIZE	SUCTION 150# ASA Standard Body	DISCH. 300# ASA Standard Body	SUCTION 150# ASA Hopper Body	DISCH. 300# ASA Hopper Body	MOTOR			C	CP	D	D′	HA	HB	HC	HD	HG	HL	HM	HO	HO′	HT	X	X′	Y	Z	HL′
					HP	RPM	FRAME																			
J-10X	2 1/2"	1 1/2"	6"	2"	25	1750	284T	24 9/16"	34 1/8"	7	4 7/8"	15	46	63 11/16"	10 7/8"	3 5/8"	17	18 1/2"	13 3/4"	16 7/8"	5	29/32"	4 3/32"	3 3/32"	3 1/2"	23
J-20X	3"	2"	8"	2 1/2"	40	1750	324T	27 13/16"	39 13/16"	7 3/4"	6 1/8	18	52 3/16"	72	12 1/2"	4	19 1/2"	21 5/16"	18 7/8"	18 7/8"	5	1 3/16"	5 1/16"	3 3/16"	3 7/8"	27
J-30X	4"	3"	8"	3"	60	1750	364T	33 1/16"	44 13/16"	9	6	20	58 7/8"	82 7/8"	13 1/2"	4	22 1/8"	23 1/4"	17 1/2"	20 1/2"	5	1 5/16"	4 5/16"	3 3/16"	4 1/2"	31 3/8"
J-40X	6"	4"	10"	4"	100	1750	405T	38 11/16"	54 7/16"	10 3/4"	6 7/8"	22	70 3/4"	98 1/8"	15 1/4"	4	26 7/8"	26 1/16"	19 1/4"	23 9/16"	5	1 11/16"	5 1/16"	4 3/16"	5	38 3/8"
J-50X	8"	6"	12"	6"	150	1750	445T	44 5/8"	61 1/2"	12 1/2"	7 1/2"	24	81 3/8"	111 7/8"	17	4	30 1/2"	29 1/16"	22 7/8"	26 1/4"	5	2	6	5 3/8"	5 3/4"	44
J-60X	10"	8"	16"	8"	200	1150	8110	65 5/8"	68 11/16"	15	8 5/8"	27	107 1/8"	139 5/16"	21 1/2"	6	34 1/4"	36 1/4"	28	33	5	2 1/4"	8 1/2"	6 1/2"	7	50 3/4"
J-70X	12"	10"	18"	10"	400	1150	8288	71 5/8"	89 3/8"	20 7/8"	9 1/2"	31	125	166	27 7/8"	6	44	71 7/8"	35 7/8"	43 7/7"	5	3	14 1/16"	7 1/2"	11 5/8"	65 5/8"
J-80X	16"	12"	20"	10"	500	870	8309SU	82 3/4"	105 1/4"	23 1/2"	14	36	143 1/2"	193	30 1/2"	6	49 1/8"	71 1/2"	39 1/2"	50 1/2"	5	3 3/4"	14 1/2"	9 1/4"	11 3/4"	75 3/4"

*** Dimensions not to be used for construction purposes.**



***Hopper body option available.**

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