

## POLAR MASSAGER ADVANTAGES

Leading technology provides 100% process control, producing the most consistent and highest yielding product possible

Rapid curing achieved in-line which eliminates the need to hold product for color development

Optional patented Accu-Massage provides product sensing and control technology

Deep muscle-penetrating action provides proven, superior myosin protein extraction capabilities

Increases the water holding capacity of raw products

Industry's fastest product temperature transfer without consumables such as steam or CO<sub>2</sub>

Stationery vessel does not require tilting to load, unload or sanitize, improving worker safety and eliminating mechanical problems

Small footprint saves floor space

All welds and product contact areas are hand-polished to allow easy cleaning and to reduce microbial risk

PolarVision-ready for a full automation solution

Vacuum is drawn from the Massager's highest point, guaranteeing no vacuum pump contamination



### JBT PROTEIN PROCESSING

#### SECONDARY

BRINE PREPARATION | HOMOGENIZATION | INJECTION  
INJECTION & RETURN MILLING | MACERATION | MASSAGING | TENDERIZATION  
TV MEAT SLICING | X-RAY TECHNOLOGY | AUTOMATED TRAY LOADING

#### FURTHER

WEIGHING | PORTIONING/TRIMMING | COATING | FRYING & FILTRATION | PROOFING  
COOKING | COOLING | CHILLING | FREEZING | REFRIGERATION | CLIPPING & PACKAGING  
SOLUTIONS | X-RAY TECHNOLOGY | HIGH-PRESSURE PROCESSING (HPP)



Northfield

SCHRÖDER

STEIN

TIPPER TIE

Wolf-tec POLAR

XVISION

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WOLF-TEC™

Polar Massager



Produce Better, More Uniform Products  
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MESSAGING

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# Polar Technology. A Breakthrough in Modern Processing.

The Polar Messenger is the most capable, reliable and advanced system for curing, water binding and ingredient distribution in meat, poultry and fish products available today.

Over the course of last three decades, the Polar Messenger has led the meat processing industry in innovations and modernization. With years of commitment, and highly advanced research and development behind it, Wolf-tec is recognized as the top manufacturer of quality messengers. JBT's principles of product consistency, process control, food safety and reliability continue to drive our product development today. Polar Messengers have become the industry standard for the further processing of whole muscle products, including pork, beef, poultry and seafood. Processors have come to rely on the Polar Messenger to reduce their operational costs and achieve consistently high product quality. The Polar Messenger stabilizes the process conditions to maintain complete control over the outcomes of the finished product.

The Polar Messenger's temperature guidance system optimizes temperatures for ingredient functionality, dispersion, and proper color development. The Polar Messenger's patented paddle action provides even, quick dispersion of ingredients throughout the whole muscle while maintaining product integrity. Every piece and component that makes up a Polar Messenger utilizes the newest technology and smartest design innovations. The result is a Messenger that:

- Improves process control
- Provides the highest level of hygiene
- Reduces labor and operational costs
- Delivers product consistency and repeatability, batch after batch, day after day



### Unique Massaging Action

The Polar Messenger offers a unique product-to-product massaging action under the highest vacuum. The patented paddle action provides quick, uniform dispersion of ingredients. The deep muscle penetrating action has proven superior myosin protein extraction capabilities, effectively dispersing and building a stronger, better yielding water/protein matrix.



### Vacuum Loading System

A fast and efficient Vacuum Loading System can be easily integrated to provide total, in-line automation. These 6" and 8" sanitary vacuum valves load and transfer product, allowing processors to "expand" the system as production requirements grow.

### Optional Features

Modular Vacuum Loading System is the most effective and hygienically designed product transfer system



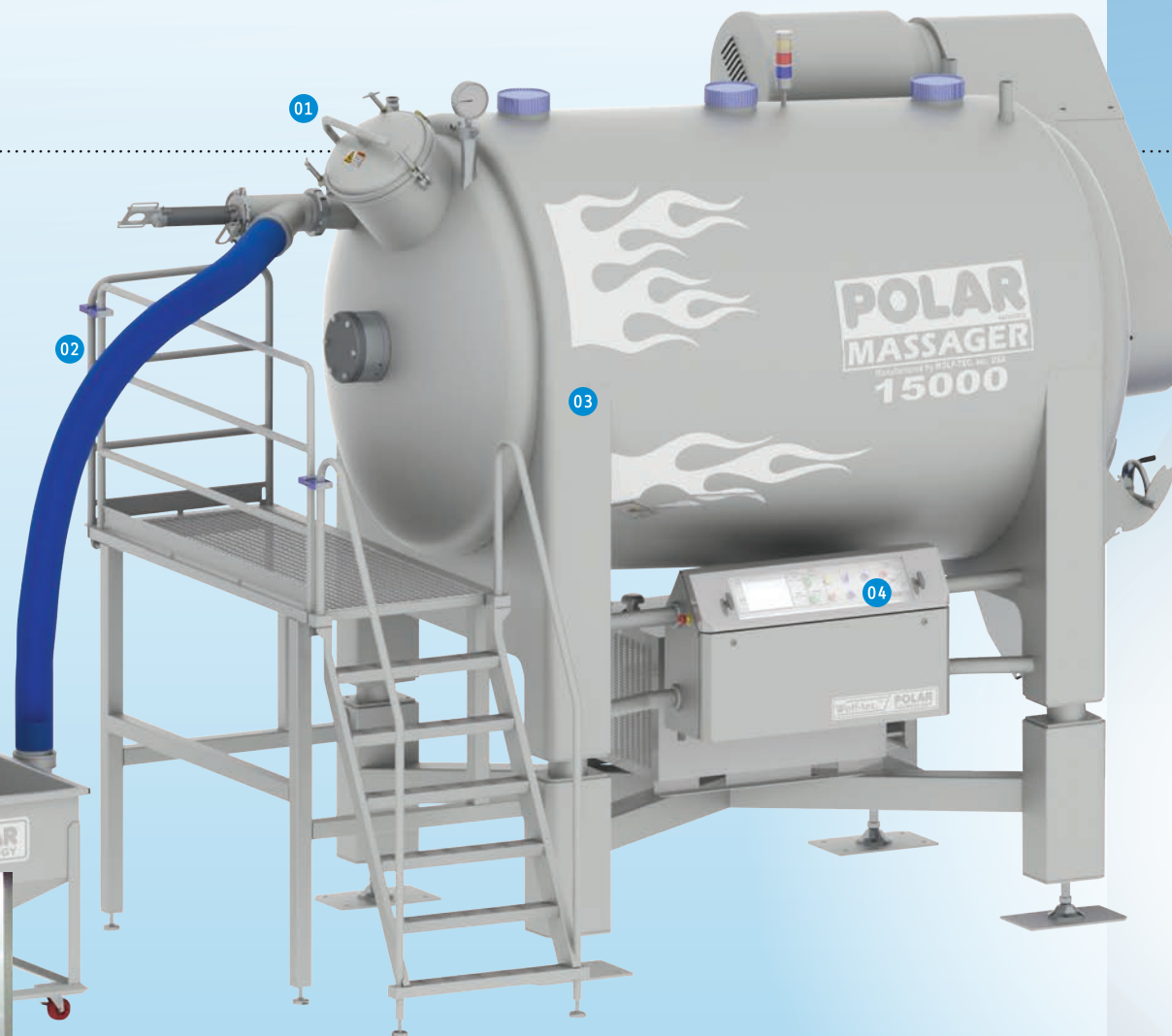
### Quality Construction

The quality construction of the Polar Messenger ensures years of reliability and performance. Manufactured entirely out of stainless steel, all contact surfaces are ground flush and hand-polished, providing the highest level of hygiene. The Polar Messenger has no external moving parts, and no safety, sanitation or mechanical problems unlike messengers manufactured in the "tumbler style."



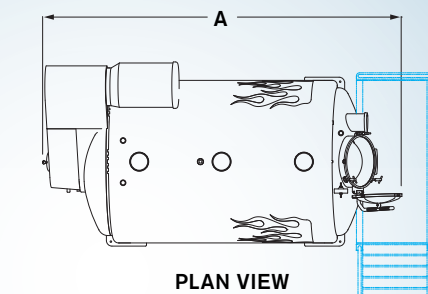
### PolarVision Process Monitoring

PolarVision is a real-time process monitoring and control system. Once a process has been defined and is operational, PolarVision controls the process to ensure it remains within specifications. It also allows the processor to remotely monitor and control the process in real-time, while providing operator accountability and alarm/event notification.

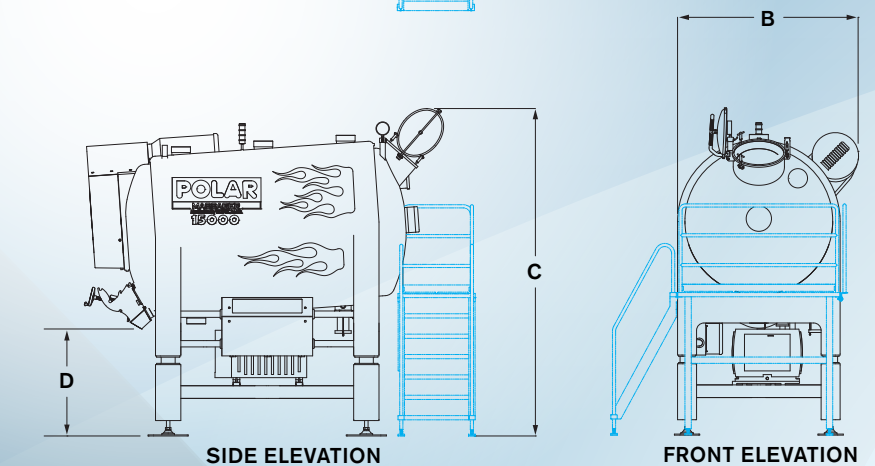


### Temperature Guidance System

The Polar Messenger features a Temperature Guidance System to control heating and cooling throughout the entire process. This innovative system monitors and cycles products through multiple temperature bands to improve moisture absorption, product color, protein extraction and yields. A patented Accu-Massage torque control monitors product conditions in real time. As product begins to "dry," the paddles slow down automatically to reduce any risk of over-working and causing physical damage to the muscle structure and product integrity.



PLAN VIEW



SIDE ELEVATION

FRONT ELEVATION

MODEL	Overall Length (A)	Overall Width (B)	Overall Height (C)	Discharge Chute Height (D)
PM2500	103" (2616 mm)	55" (1397 mm)	111" (2819 mm)	40" (1016 mm)
PM5000	116" (2946 mm)	75" (1905 mm)	126" (3200 mm)	44" (1118 mm)
PM10000	153" (3886 mm)	80" (2032 mm)	146" (3708 mm)	50" (1270 mm)
PM15000	170" (4318 mm)	88" (2235 mm)	156" (3962 mm)	50" (1270 mm)
PM18500	180" (4572 mm)	92" (2337 mm)	160" (4064 mm)	50" (1270 mm)
PM20000	190" (4826 mm)	92" (2337 mm)	161" (4089 mm)	50" (1270 mm)
PM22000	190" (4826 mm)	99" (2515 mm)	166" (4216 mm)	50" (1270 mm)