

Request for Proposal (RFP)

OxyLift Upgrade with Bridge Access – Wastewater Treatment Plant

Introduction

The City of West Plains is soliciting sealed proposals from qualified contractors for the installation of an OxyLift Upgrade system with bridge access, as designed and supplied by Jaeger-Aeration. The project includes construction of a control building and pad, installation of aeration equipment and blowers, debris cleanup, and removal of motors #3 and #4 near project completion.

Project Overview

Location: West Plains Wastewater Treatment Plant

Scope Includes:

- Installation of Jaeger-Aeration's OxyLift system and bridge access
- Construction of a control building and concrete pad
- Installation of blowers, mixers, and SCADA components
- Debris removal and motor decommissioning (#3 and #4)
- Coordination with Jaeger-Aeration for startup and commissioning

Materials Provided by Jaeger-Aeration

Jaeger-Aeration will supply the following:

- OxyLift retrievable diffuser racks (8 racks, each with 24 OxyStrip diffusers)

- 90-ft access walkway with hoist trolley and Thern hoist
- Two twisted trilobe PD blower packages (1000 SCFM @ 8 PSIG)
- PLC panel with CompactLogix PLC and PanelView+ HMI
- ABB VFDs for blowers and mixers
- Local DO and ORP sensors (InSite brand)
- Spare parts (diffusers, oil, hose/cam lock)

Contractor Responsibilities

The selected contractor shall:

- Construct a concrete pad and control building (with lighting and HVAC)
- Offload and install Jaeger-supplied equipment
- Provide all anchor bolts and epoxy for concrete anchoring
- Install air supply piping outside the basin (not included by Jaeger)
- Perform electrical wiring and connections not covered by Jaeger
- Remove motors #3 and #4 near project completion
- Clean up debris and restore site conditions
- Coordinate with Jaeger-Aeration for startup and commissioning

Timeline

- Advertisement- November 19th, 2025- December 16th, 2025
- On Site Visit- December 4th, 2025 10am
- Proposal Submittal Date: December 16th, 2025, 2:00pm
- Proposal Selection: December 19th, 2025
- Installation & Startup: To be coordinated with Jaeger field services. Estimated in Q1 of 2026

Proposal Requirements

Proposals must include:

- Company profile and qualifications
- Relevant experience with wastewater aeration systems
- Detailed project timeline
- Cost breakdown (labor, materials, subcontractors)
- Insurance and bonding documentation

- References from similar projects

Evaluation Criteria

Proposals will be evaluated based on:

- Experience and qualifications
- Cost competitiveness
- Project timeline and approach
- Compliance with technical specifications
- References and past performance

Submission Instructions

Deadline: December 16th 2025 2:00PM

Submit To:

By Mail:

City of West Plains

Attn: Kristopher Bates

1910 Holiday Lane

West Plains, MO 65775

By Email:

purchasing@westplains.gov

Format: PDF or printed copy

Questions: Direct inquiries to

Vernon Hunter Vernon.hunter@westplains.gov or Tim Boone Tim.boone@westplains.gov

Additional Notes

All work must comply with applicable local, state, and federal regulations.

The City reserves the right to reject any or all proposals.

HARDWARE ANTI-SEIZE:
THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANTI-SEIZE FOR ALL STAINLESS STEEL HARDWARE.

VERIFY ALL DIMENSIONS:
CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONAL VERIFICATIONS, COORDINATION OF DRAWINGS, AND PROPERLY INTERFACING OTHER EQUIPMENT COMPONENTS AND SURROUNDINGS NOT SUPPLIED BY SERPENTIX OR JAEGER AERATION.

ANCHORAGE & RELATED HARDWARE:
ALL ANCHORS AND RELATED HARDWARE ARE THE RESPONSIBILITY OF THE CONTRACTOR.

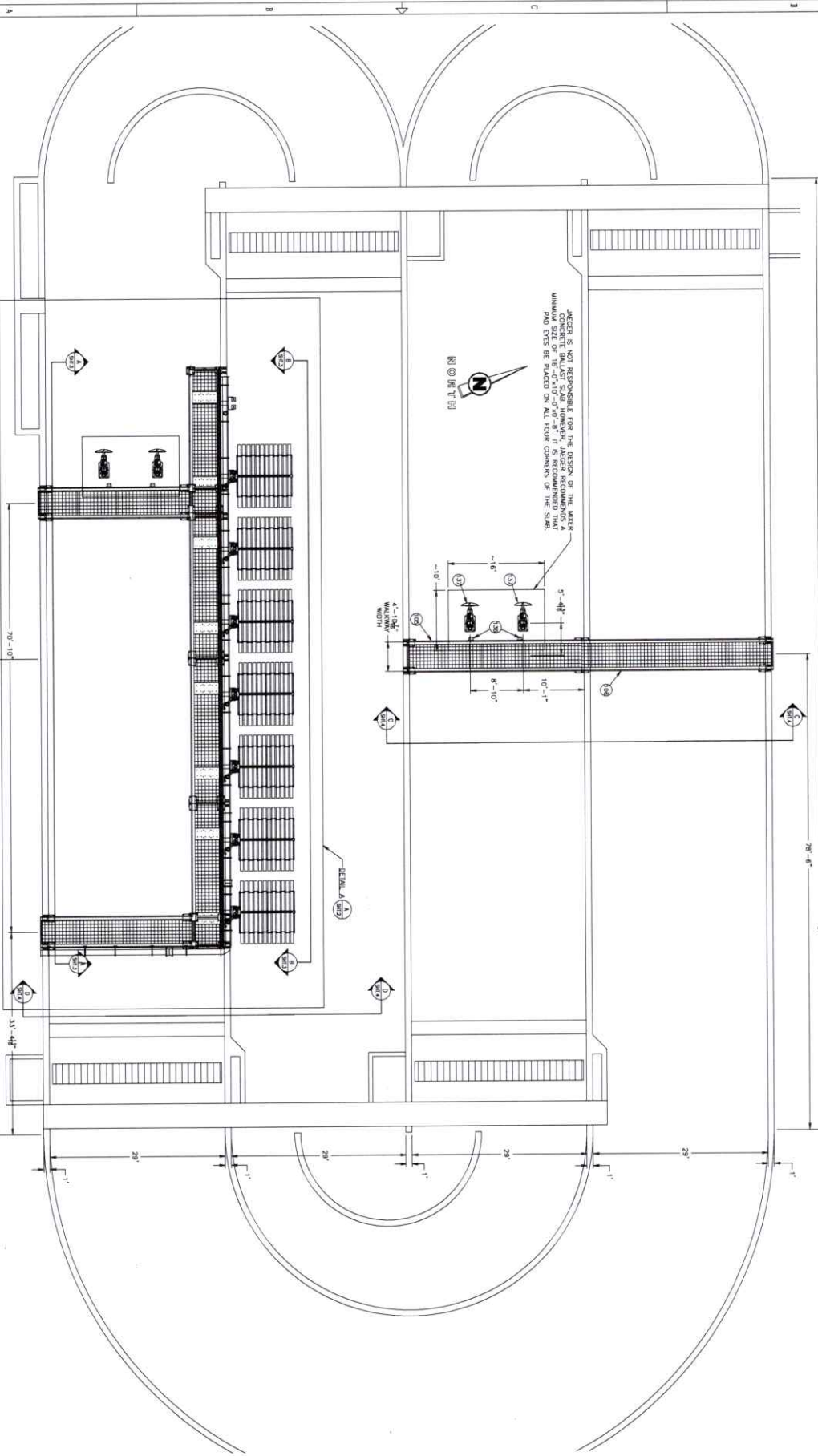
GENERAL ARRANGEMENT DRAWING SHEET 1 OF 7

JOB NAME: WEST PLAINS, MO
JOB #: GJA-25-1067 REVA
DRAWING: AERATION DITCH (PLAN)

Jaeger AERATION, LLC

Diffusers, Aeration Tanks,
& Process Design

4175 Mulligan Dr.
LONGMONT, CO 80604
PHONE (970) 535 - 0554
FAX (970) 535 - 0945



ASSEMBLY HARDWARE:
JAEGER PLANS TO SUPPLY ALL HARDWARE REQUIRED FOR ASSEMBLY TO THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANTI-SEIZE FOR ALL STAINLESS STEEL HARDWARE.

SEISMIC ANALYSIS PENDING:
FINAL SEISMIC ANALYSIS PENDING. FINAL SEISMIC ANALYSIS WILL COME AFTER SEISMIC REVIEW IS COMPLETED.

PLAN VIEW
SCALE: 1/8" = 1'

BLR
SHEET:
1
OF
7

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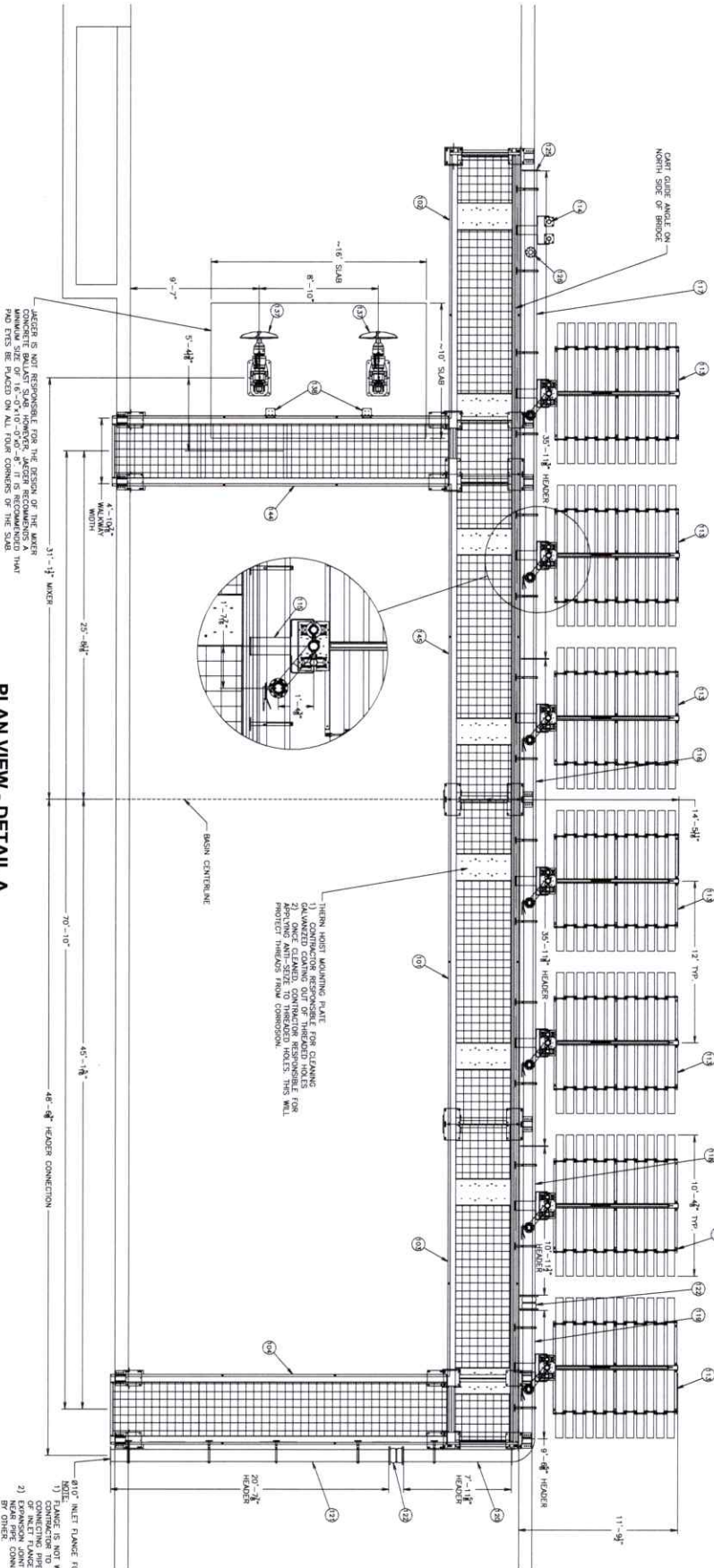
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GENERAL ARRANGEMENT DRAWING SHEET 2 OF 7

JOB NAME: WEST PLAINS, MO
JOB #: GLA-25-1067 REVA
DRAWING: AERATION DITCH (PLAN)

CART GUIDE ANGLE ON NORTH SIDE OF BRIDGE



PLAN VIEW - DETAIL A
SCALE: 1/8" = 1'

SX	147	1	11'-11" LG. x 2-SUPPORT END ASSEMBLY
SX	146	1	11'-11" LG. x 4-SUPPORT MIDDLE ASSEMBLY
SX	145	1	24' LG. BRIDGE W/ LEFT OUTSIDE ENTRANCE
SX	144	1	25'-0" LG. AERATION ACCESS BRIDGE
SX	143	4	WATER CONCRETE ANCHOR EMBEDMENT PLATE
SX	142	8	WATER CONCRETE ANCHOR EMBEDMENT PLATE
SX	141	7	WATER CONCRETE ANCHOR EMBEDMENT PLATE

JA	141	7	LIFTING SHOCKE W/ COTTER PIN
SX	140	13	BRIDGE ISOLATION BARRIER - LONG - 1/16" THICK UNIM
SX	139	11	BRIDGE ISOLATION BARRIER - LONG - 1/16" THICK UNIM
JA	138	4	HOLEY SUPPORT ARM
SX	137	4	KCSA ANCHOR W/ WIRE
SX	136	1	THORN HOLEY CART SUBASSEMBLY
JA	135	1	THORN HOLEY ANCHOR
JA	134	7	3/8" x 7' x 19' x 44' LG. WIRE ROPE
JA	133	7	64" HOSE, 11'-3 5/16" LG. x CAM-LOCK
JA	132	1	64" x 7' LG. NPT W/PLE
SX	131	1	64" x 7' LG. NPT W/PLE
JA	130	7	64" x 7' LG. NPT W/PLE
SX	129	7	64" x 7' LG. NPT W/PLE
JA	128	7	64" x 7' LG. NPT W/PLE

SX	128	4	CMS-48 810' EXPANSION LOCK PRE SUPPORT
SX	127	17	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	126	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	125	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	124	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	123	4	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	122	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	121	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	120	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	119	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	118	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	117	1	64" x 1/4" BLIND FLANGE - FLAT FACE
SX	116	1	64" x 1/4" BLIND FLANGE - FLAT FACE

SX	115	8	WATER RETENTION DIFFUSER BACK SUPPORT
SX	114	1	WATER RETENTION DIFFUSER BACK SUPPORT
SX	113	7	WATER RETENTION DIFFUSER BACK SUPPORT
SX	112	2	WATER RETENTION DIFFUSER BACK SUPPORT
SX	111	3	WATER RETENTION DIFFUSER BACK SUPPORT
SX	110	2	2'-3" LG. x 2'-PLATE WALL TOP SUPPORT
SX	109	8	2'-3" LG. x 2'-PLATE WALL TOP SUPPORT
SX	108	2	11'-11" LG. x 2-SUPPORT MIDDLE ASSEMBLY
SX	107	1	11'-11" LG. x 4-SUPPORT END ASSEMBLY
SX	106	1	11'-11" LG. x 4-SUPPORT END ASSEMBLY
SX	105	1	25'-0" LG. WATER BRIDGE SUBASSEMBLY
SX	104	1	25'-0" LG. WATER BRIDGE SUBASSEMBLY
SX	103	1	24' LG. BRIDGE W/ RIGHT OUTSIDE ENTRANCE
SX	102	1	24' LG. BRIDGE W/ RIGHT INSIDE ENTRANCE
SX	101	1	24' LG. BRIDGE SUBASSEMBLY

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Diffusers, Aeration Tanks,
& Process Design

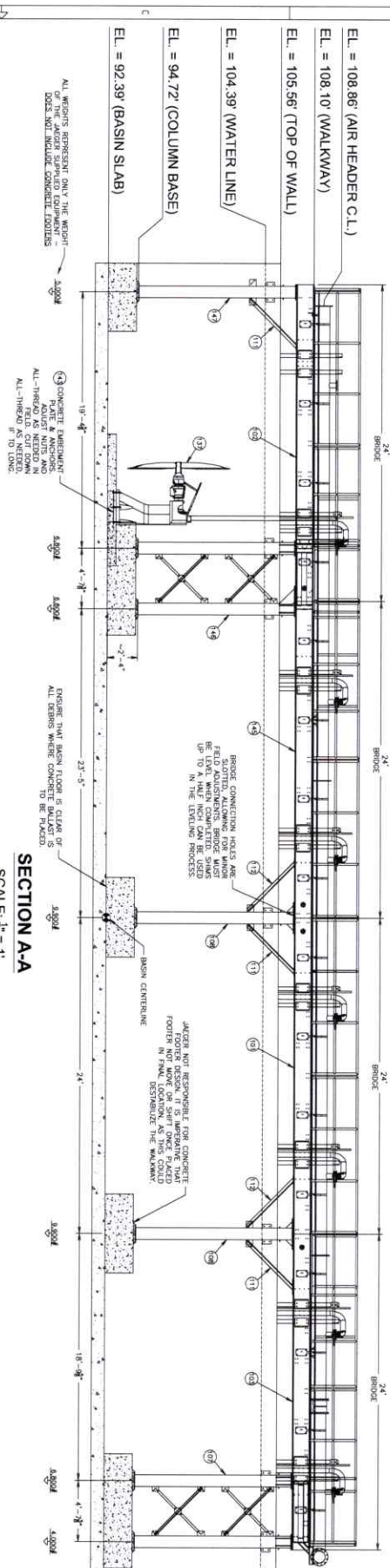
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PHONE (970) 535-0554
FAX (970) 535-0945



Jaeger AERATION, LLC

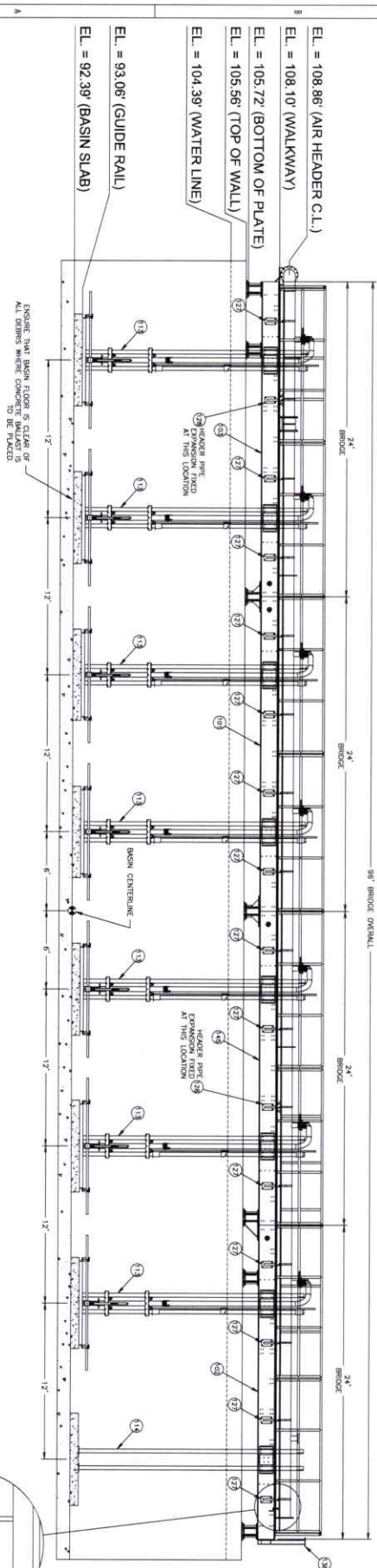
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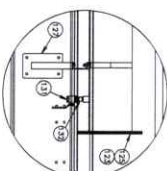
SECTION A-A

SCALE: $\frac{1}{4}" = 1'$



SECTION B-B

SCALE: $\frac{1}{4}" = 1'$



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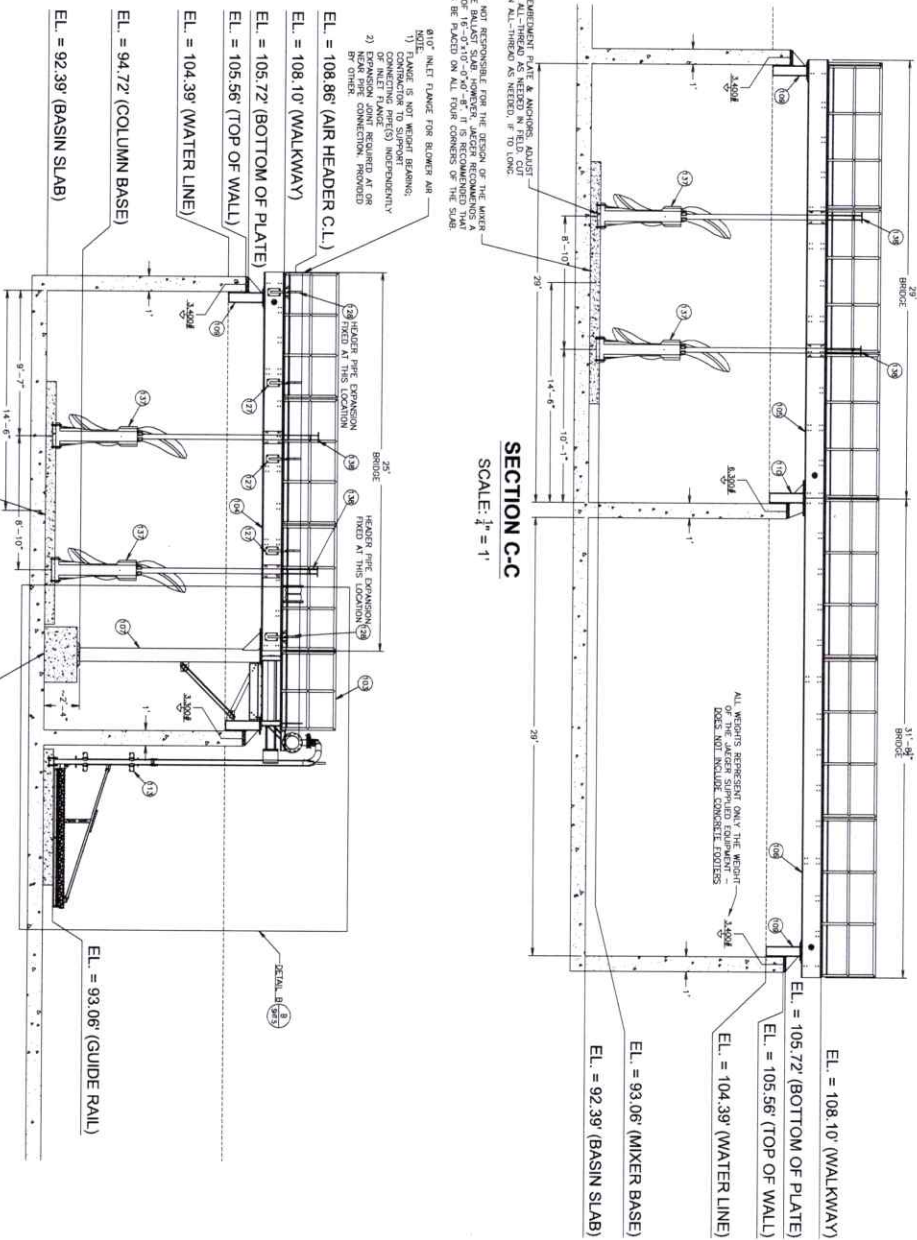
GENERAL ARRANGEMENT DRAWING SHEET 4 OF 7

JOB NAME: WEST PLAINS, MO
JOB #: GJA-25-1067 REVA
DRAWING: AERATION DITCH (ELEVATION)

Jaeger AERATION, LLC

Diffusers, Aeration Tanks,
& Process Design

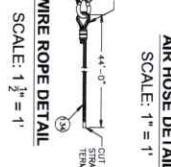
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JOB NAME: WEST PLAINS, MO
JOB #: GJA-25-1067 REVA
DRAWING: AERATION DITCH (DETAIL)



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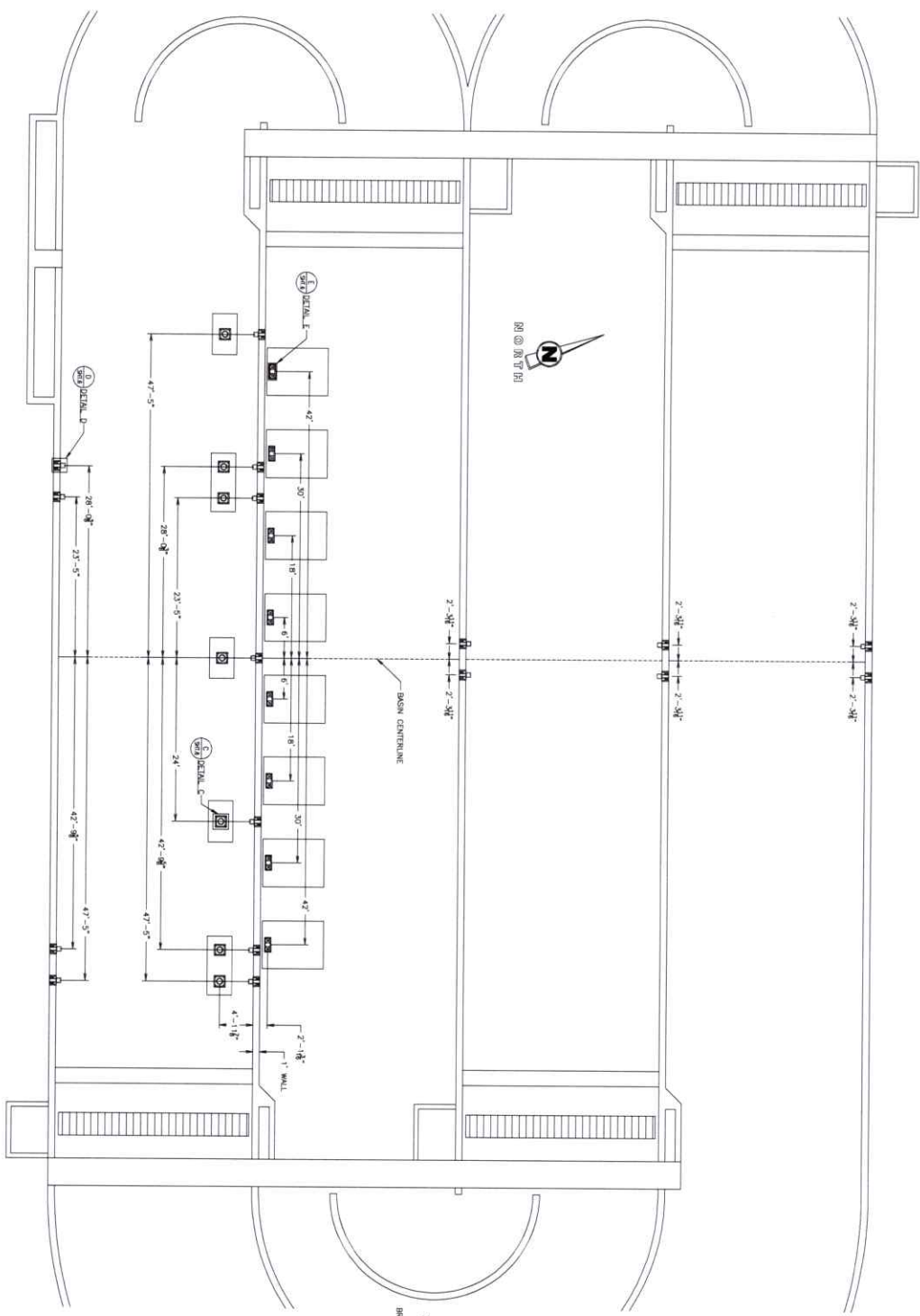
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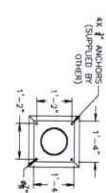
GENERAL ARRANGEMENT DRAWING SHEET 6 OF 7

JOB NAME: WEST PLAINS, MO
JOB #: GJA-25-1067 REVA
DRAWING: AERATION DITCH (PLAN, DETAIL)



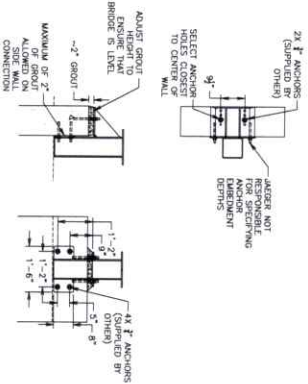
BASIN FOUNDATION DETAIL

SCALE: $\frac{3}{8}" = 1'$



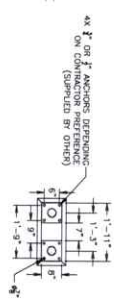
DETAIL C - (SUPPORT LEG ANCHOR)

SCALE: $\frac{3}{8}" = 1'$



DETAIL D - (WALL TOP SUPPORT LEG ANCHOR)

SCALE: $\frac{3}{8}" = 1'$



DETAIL E - (Oxylift GUIDE RAIL ANCHOR)

SCALE: $\frac{3}{8}" = 1'$

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Diffusers, Aeration Tanks, & Process Design

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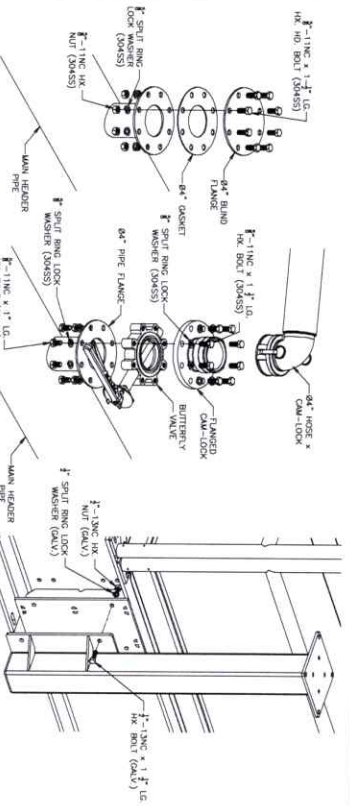
**GENERAL ARRANGEMENT
DRAWING SHEET 7 OF 7**

JOB NAME: WEST PLAINS, MO
JOB #: GJA-25-1067 REV A
DRAWING: AERATION DETAIL (DETAIL)

Jaeger AERATION, LLC

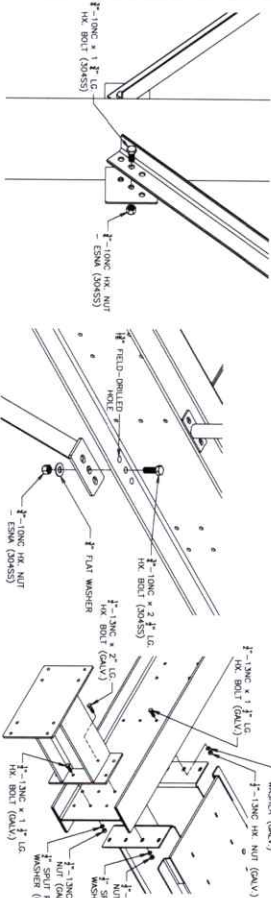
Diffusers, Aeration Tanks,
& Process Design

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LONGMONT, CO 80504
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FAX (970) 535 - 0945



**BLIND FLANGE
(EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

**BUTTERFLY VALVE
JUNCTION (EX. VIEW)** **HOIST SUPPORT ARM TO
BRIDGE JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

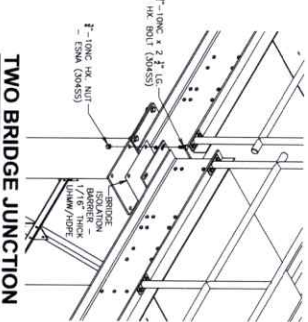


**COLUMN TO KNEE BRACE
JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

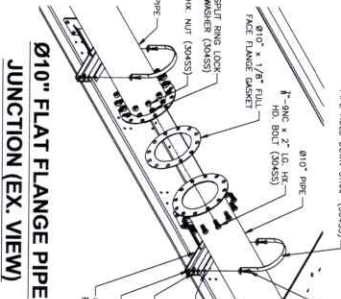
**BRIDGE TO KNEE BRACE
JUNCTION (EX. VIEW)** **OXYLIFT GUIDE RAIL SUPPORT
JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

**OXYLIFT GUIDE RAIL
JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

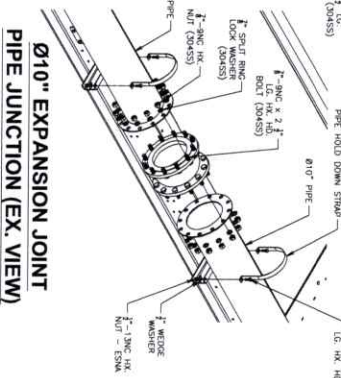
**PIPE SUPPORT
JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$



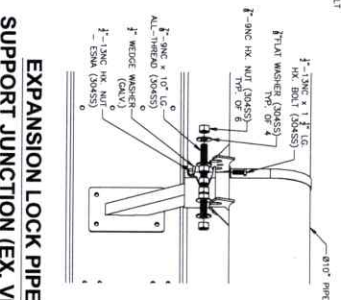
**TWO BRIDGE JUNCTION
(EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$



**Ø10" FLAT FLANGE PIPE
JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$



**Ø10" EXPANSION JOINT
PIPE JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$



**EXPANSION LOCK PIPE
SUPPORT JUNCTION (EX. VIEW)**
SCALE: $1 \frac{1}{2}'' = 1'$

Advanced Aeration Solutions:

Expertise in Diffuser System Design Since 1973

Aeration Systems

- **Projects**

- Retrofit Existing
- New Facilities

- **Basin Types:**

- Round
- Square
- Rectangular
- Orbal Channel
- SBR
- Oxidation Ditch

- **Diffusers**

- Fixed Grid
- Retrievable

- **System Design**

- OxyProcess
- Blowers & Controls
- Access Bridges
- Redundancy
- Stainless Steel & Hot Dipped Galv

New WWTP • Retrofit Fixed Grid • Retrofit concentric ring • Retrofit Rotor Oxidation Ditch • BNR Performance for TN and TP

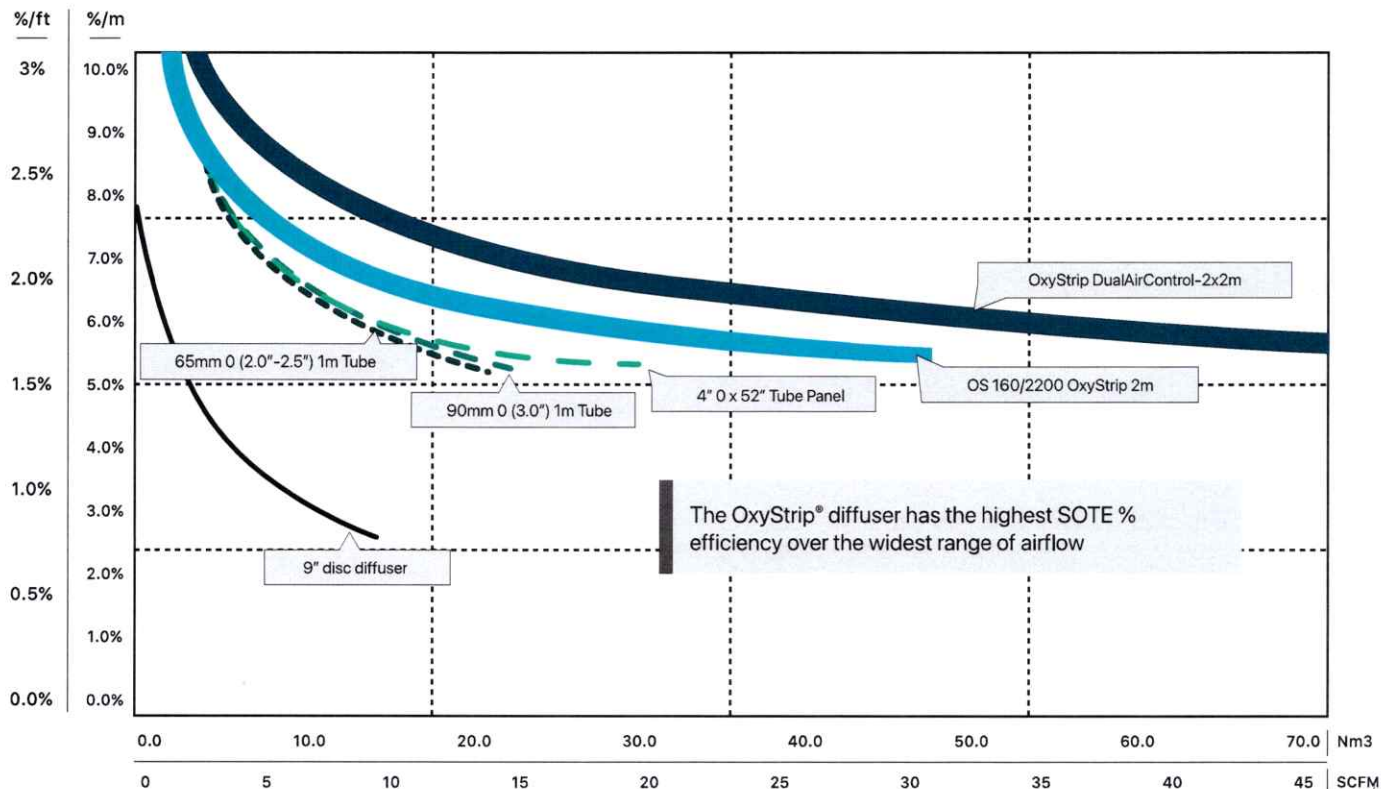
OxyStrip™ - OxyTube™ - OxyDisc™

Retrievable and Fixed Grid Fine-Bubble Membrane Diffusers

Strip, Tube, and Disc Fine-Bubble Membrane Diffusers

Our three main diffuser categories all offer floor coverage, providing aeration as well as mixing to the tank. The patented designs offer a wide variety of waste water treatment solutions, making them ideal for new and retrofit projects.

SOTE% Performance benchmark by airflow range & diffuser type



SOTE curves for reference only and benchmark SOTE test comparing JAEGER Oxy****™ diffusers to select competitors' models are available on special request. SOTE is subject to tank geometry, diffuser insertion depth, diffuser density and other factors.

Diffuser Benchmarks	JAEGER - OxyStrip™	JAEGER - OxyTube™	JAEGER - OxyDisc™
Diffuser Type	Strip	Tube	Disc
Membrane Material	EPDM / Silicone / PU	EPDM / Silicone / PU	EPDM / Silicone
Efficiency SOTE %	Best	Better	Good
Retrievable Design Solutions	Yes, universal	Yes, limited	No
Turndown Capabilities	9:1 or 16:1 *	3:1	2:1
Recommended Flux Rate (scfm/diffuser)	2.5 - 22.0	3.0 - 8.0	1.0 - 2.5
Flux Rate Design (scfm/diffuser) (Nm3/h / diffuser)	2.0 - 22.0 / 2m strip 3.0 - 35.0 / strip	3.0 - 8.0 / 1m tube 5.0 - 13.0 / tube	0.75 - 2.5 / typical 9" disc 1.2 - 3.9 / disc
Diffuser Equivalent [2m OxyStrip standard]	1:1	5:1	9:1
Headloss (psig)	< 0.8	0.9	1.1
Internal Check Valve [prevent sludge]	Yes, dual	Yes	Yes
Active Area per Diffuser	3.44 sq ft / 2 meter	1.40 sq ft	0.38 sq ft
Expected Life (years)	12 - 15	8 - 11	7 - 10

Figures subject to specific process design, waste water composition, and actual plant loading conditions. Please contact us for more information.*9:1 Regular OxyStrip™ configuration. Turndown of 16:1 achieved with DualAir™ system design

EPDM = black rubber type Silicone = white rubber type PU = white Polyurethane type

JAEGER - OxyStrip™

The OxyStrip™ advances membrane technology to lower O&M cost and easier to maintenance while increasing efficiency vs tube and disc diffusers

Sensitive System Design:

- Higher SOTE % performance than other diffuser types
- Up to 90% fewer diffuser connections than disc diffusers
- Two internal check valves restrict sludge from air piping
- Fatigue Free Design- presents stretched membrane failure
- On/off cycles design for OxyProcess and energy savings
- DO and ORP Control for BNR and O2 Control
- expected life of 15+ years, multiple material design

Installation Benefits

- 18" +/- lower than tube or disc installed diffusers
- Flex hose eliminates air piping vibration diffuser failures
- More rigid installation for longer life



JAEGER - OxyTube™

The OxyTube™ offers increased membrane surface area and a vast reduction of lateral air piping compared to disc diffusers.

- Predominantly fixed grid installations
 - Direct anchoring to air piping, supported by a clamshell attachment
- Piping: PVC and/or stainless steel (for fixed grid)
- Check valve & Fatigue-Free Design™



JAEGER - OxyDisc™

As the original manufacturer of EPDM fine-bubble disc diffusers, the JAEGER OxyDisc™ diffuser design concept is the market standard.

OxyDisc™ ECO-10:

The industries most versatile & efficient disc design

- 10" disc diffuser with balancing orifice technology

- Standard 9" disc is default in industry
- We invented and still produce the original 9" EPDM membrane
 - Offer direct replacement membrane inserts for competitor disc diffusers
- For fixed floor grids only
- Piping: PVC and/or stainless steel
- Internal check valve



JAEGER-AERATION™ Innovative and Efficient System Design

Retrofit or New systems Disc or Tube systems to use Jaeger Aeration membranes. Direct replacement of existing or upgrade to OxyStrip diffuser for additional benefits and lower O&M costs. Regardless of the existing design, our design creativity will provide a more reliable and lower O&M installation vs the existing products.



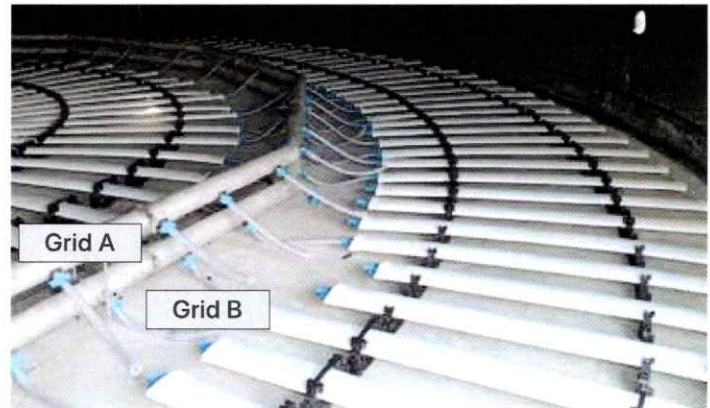
JAEGER - Dual-Air-Control™

- +Increased turndown to 16:1 for optimum O₂ Control
- +Manages variable loading to precise blower energy management
- +Provides mixing and oxygen control with the air control valves
- +Utilizes flex connector to maintain diffusers at same elevation for s
- +Single blower system managing blower pressure

Tank Options:

- Any tank configuration dimensions
- Round
- Square - Rectangular
- Optional Mixing if required for extreme loading cases

The OxyStrip™ diffuser design allows for an alternating air-hose coupling pattern, allowing one set of blowers to be turned down/off independently of the other, while maintaining consistent aeration patterns.



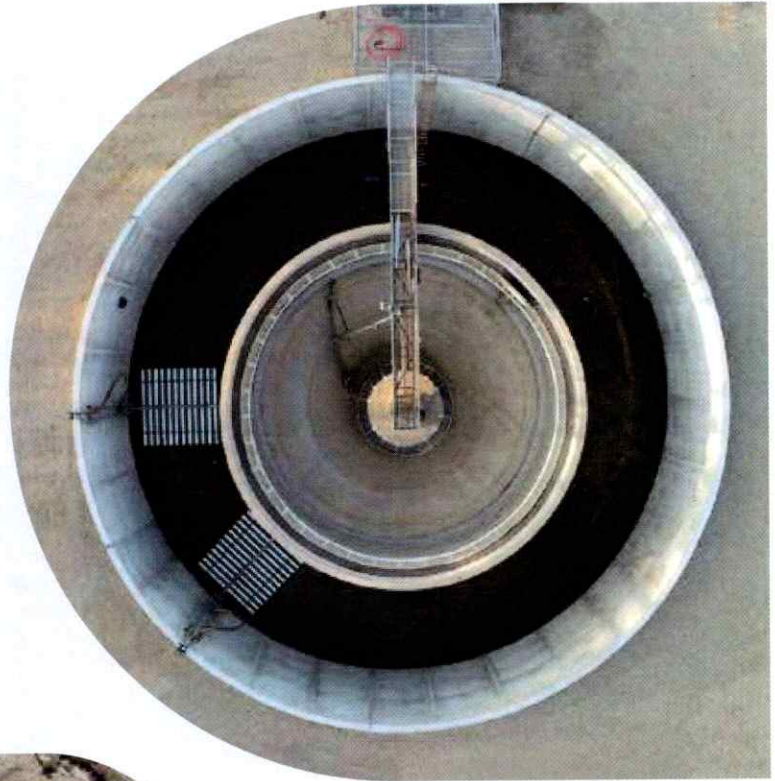
Retrievable Rack Systems

OxyLift Diffuser racks for maximum oxygen per sq ft of membrane area

Wall mount or Bridge mounted diffuser retrievable design

Integral Air supply piping for redundancy in aeration system

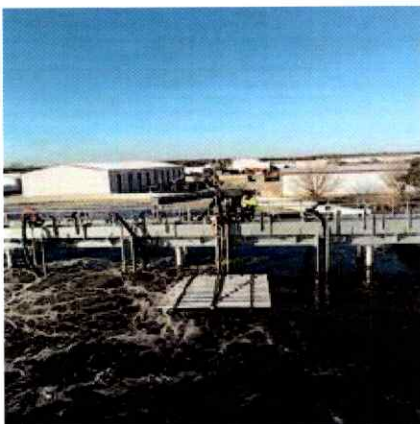
Separate mixing HP for improved energy efficiency and process control with OxyProcess DO and ORP control



Retrofit facilities

- Concentric Ring
- Rotor ditch conversion
- Single Aeration Basin

Retrievable racks from platform, aeration bridge or side of walls



JAEGER-OxyPOD™

Enhanced Aeration Performance

OxyPOD™ Aeration Systems for Oxygen-Deficient Tanks & Lagoons

Our OxyPOD™ supplementary aeration solutions are ideal for maximizing system uptime and maintaining low O&M costs. A flexible and inexpensive approach to enhance aeration processes:

- Retrofit of oxygen-deficient systems
- Facilities w/out system redundancy
- Disaster recovery
- Odor control
- Emergency aeration

Drop-in / submerged / self-weighted racks for concrete tanks, mechanical carousel plants, & oxidation ditches

Suspended solutions (off of floating laterals) for lagoon applications.

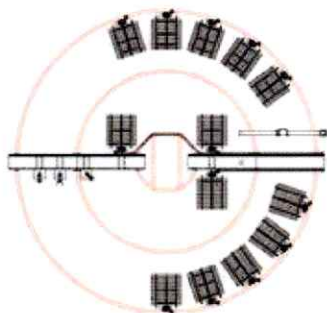


Suspended Floating Solutions

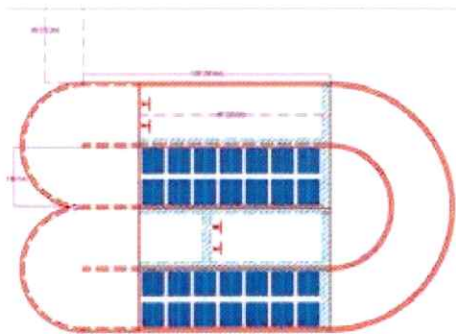
Drop-in / Submerged / Self-Weighted Racks

JAEGER-AERATION™ Configurations for Retrofit / System Upgrades:

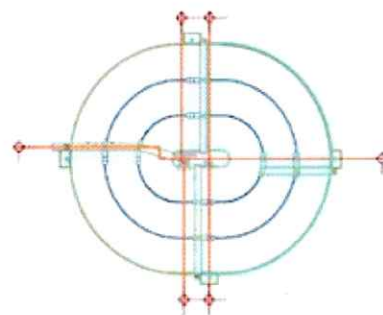
Our industry experience and continued innovation have resulted in exciting new applications within the system supply for complete biological nutrient, nitrogen, and phosphorus removal for new & existing facilities.



Concentric Ring WWTP



Vertical Turbine Retrofit Ditch



Supplemental Air OxyStrip POD

JAEGER-BioCube™

Biological Process Enhancement

Self-weighted / Fixed or Retrievable

- FFBR (Fixed Film Bio Reactors)
- IFAS (Integrated Fixed Film Activated Sludge)

Media Block Design

- Polypropelene Solvent Weld Blocks
- BOD Removal Opening
- Ammonia Removal Opening



The BioCube™ provides mixing and aeration, up to a 60% increase in BOD removal by volume. It provides enhanced ammonia removal / nitrification at a higher sludge age.

Diffuser Innovation and Supply Since 1973

A third-generation business originating in Germany, Gummi-Jaeger AERATION LLC is the wastewater treatment industry pioneer of EPDM fine-bubble membrane diffusers. Arnold Jäger created the world's first fine-bubble rubber membrane diffuser in 1973 as a replacement for ceramic diffusers. The business has grown to international size and supply. Customers have benefited from the Jaeger wastewater diffuser option innovations, SOTE % performance improvements, lower operations O & M, diffuser life expectancy increases since the original disc diffusers. As the leader in diffuser technology, we continue to innovate our diffuser lines and WWT processes for our clients' products, providing improved efficiency and reduced costs to our end users and our OEM manufacturers for their clients.

Our **JAEGER-Oxy...**™ diffuser lines, integrated into our **OxyMix**™, **BioCube**™, and **OxyLift**™ technologies, offer unique municipal & industrial WWT solutions. The streamlined system design offers low-cost, creative options for new & retrofit facilities, with the benefit of decreased power consumption and low O & M. OxyProcess aeration consulting and drawing are provided for facility designs for TN and TP using our decades of experience and diffuser design.

More information available



For more information, please contact your regional sales representative or get in touch with us directly:

JAEGER AERATION LLC
4175 MULLIGAN DRIVE
LONGMONT, CO 80504 - USA



WWW.JAEGER-AERATION.COM
PHONE: +1 (970) 535-0554
FAX: +1 (970) 535-0945
INFO@JAEGER-AERATION.COM

The OxyStrip™ Diffuser employs multiple patented and patent-pending technologies, utility, product design features, registered TMs and / or WWT system process controls. It is engineered and manufactured by Gummi-JAEGER AERATION LLC.

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TRANSPORTABLE DAVIT CRANE

ADMIRAL[®] 3000



thern.com
(507) 454-2996

ADMIRAL® 5PT30

TRANSPORTABLE DAVIT CRANE

MAXIMUM LIFTING POWER with Portable Utility

The 5PT30 Admiral Series davit crane (up to 3,000 pounds) is Thern's largest capacity, transportable davit crane. An adjustable boom for high lifts provides almost 10 feet of reach to clear safety gates, rails, and other obstacles. Easy disassembly and reassembly with quick-release hardware and pins enhance transport to storage or other work bases. A combination of roller and needle bearings allow it to lift, lower, and rotate loads 360 degrees, easily and smoothly. A variety of base options and manual or powered operation makes it perfect for construction, manufacturing, marine, and oil and gas applications.

360° Rotation & Flexible Operation

- Tapered roller and needle bearings enhance smooth, 360-degree rotation under load for precise load placement. Integral 12-position (every 30 degrees) boom rotation lock facilitates heavy lifting and stabilizes unloading
- Rotation handle design does not interfere with boom angle adjustment for easier operation
- Davit boom, supported by integral screw jack or boom brace, telescopes to five different lengths to accommodate a variety of applications
- Choose from manual, drill-drive, or powered winch (electric, pneumatic, or hydraulic motors) operation to accommodate a variety of loads and speeds. DC motors and various voltage AC motors, including three-phase, are available

Durable Construction & Finish

- Heavy-duty, welded structural steel pipe and tubing limit deflection and meet ASTM standards
- Red-enamel finish, mast cap and stainless-steel fasteners resist the elements and harsh environments for long service life
- Galvanized and epoxy finishes are available

Product Shown:
5PT30J-M1

Transportable

- Disassemble and reassemble using quick-release, clevis-style pins for transport to storage or bases at other work sites—no tools required. Transport requires two people

Flexible Configurations

- A variety of base and mounting options, including pedestal, flush-, and wall-mount, help meet multiple lifting needs



STANDARD CONFIGURATIONS

IMPERIAL/METRIC

Series	Description	Up To Capacity
5PT30J-M1	Enamel crane and ratchet jack with M452B-K spur gear hand winch	3,000 lbs / 1,360 kg
5PT30JG-M1	Galvanized crane and ratchet jack with M452B-K spur gear hand winch	3,000 lbs / 1,360 kg
5PT30JG-MIX	Galvanized crane and ratchet jack with gray-epoxy M452BECRA-K spur gear hand winch	3,000 lbs / 1,360 kg
5PT30J-E2	Enamel crane and ratchet jack with 3WG4B-K electric winch	3,000 lbs / 1,360 kg
5PT30JG-E2	Galvanized crane and ratchet jack with 3WG4B-K electric winch	3,000 lbs / 1,360 kg
5PT30J-M1	Enamel crane and ratchet jack with M452B-K spur gear hand winch	3,000 lbs / 1,360 kg
5PT30J-M2	Enamel crane and ratchet jack with 2W40V-BMT4P-K worm gear hand winch	3,000 lbs / 1,360 kg
5PT30JX-MIX	Gray-epoxy crane and ratchet jack with gray-epoxy M452BECRA-K spur gear hand winch	3,000 lbs / 1,360 kg
5PT30JX-E2X	Gray-epoxy crane and ratchet jack with gray-epoxy 3WG4B-KX electric winch	3,000 lbs / 1,360 kg

⚠ NOTICE: These products are not for lifting people or things over people.

Refer to technical pages for detailed performance information.

TECHNICAL DRAWINGS & SPECIFICATIONS

ADMIRAL® 3000

TRANSPORTABLE DAVIT CRANE

CONFIGURATIONS

Model	Description	Approx. Ship Wt. (lb)	(kg)
Popular Configurations			
SPT300-M1	up to 3,000 lb capacity with M452PB-K spur gear hand winch and ratchet jack—enamel crane	719	326
SPT300-G-M1	up to 3,000 lb capacity with M452B-K spur gear hand winch and ratchet jack—galvanized crane	719	326
SPT300-G-MIX	up to 3,000 lb capacity with M452BEGRA-K spur gear hand winch (epoxy) gray—galvanized ratchet jack and crane	719	326
SPT300-E2	up to 3,000 lb capacity with 3WG4B-K electric winch and ratchet jack—enamel crane	816	370
SPT300-G-E2	up to 3,000 lb capacity with 3WG4B-K electric winch—galvanized ratchet jack and crane	816	370
Crane Only			
SPT30	up to 3,000 lb—boom brace—enamel finish	563	255
SPT30G	up to 3,000 lb—boom brace—galvanized finish	563	255
SPT30X	up to 3,000 lb—boom brace—gray-epoxy finish	563	255
SPT30J	up to 3,000 lb—adjustable ratchet jack—enamel finish	628	285
SPT30G	up to 3,000 lb—adjustable ratchet jack—galvanized finish	628	285
SPT30X	up to 3,000 lb—adjustable ratchet jack—gray-epoxy finish	623	283
Winch Only			
M1	M452B-K—spur gear hand winch only—enamel finish	91	41
MIX	M452BEGRA-K—spur gear hand winch only—gray-epoxy finish	91	41
M2	2W40V-BMT4P-K worm gear hand winch—powder-coat finish	141	64
M2X	2W40V-BMT4XP-K worm gear hand winch—gray-epoxy finish	141	64
E2	3WG4B-K electric winch—115/160 VAC with 6 ft pendant control—enamel finish	188	85
E2X	3WG4B-KX electric winch—115/160 VAC with 6 ft pendant control—gray-epoxy finish	188	85

Independent Bases—sold separately

Pedestal, socket (flush-mount), or wall-mount style.

IMPORTANT: Base installation is the purchaser's responsibility. Thern recommends consulting a civil engineer or other qualified professional. Contact Thern for installation guidelines.



Finishes	MODELS		
	Pedestal	Flush	Wall
Red Enamel	5BP30	5BF30	5BW30
Galvanized	5BP30G	5BF30G	5BW30G
Epoxy Paint	5BP30X	5BF30X	5BW30X
Approximate Ship Weight	180 lbs (82 kg)	160 lbs (73 kg)	155 lbs (71kg)

Please contact Thern or nearest Thern Distributor for firm, fixed price and delivery.

Wire Rope Assemblies—sold separately

Galvanized or stainless steel wire rope assemblies with swivel hook on one end and unfinished on the other end.

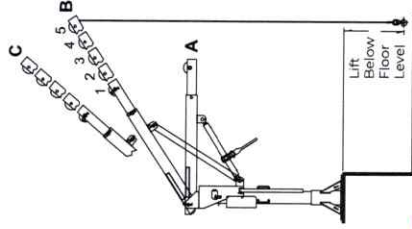
Wire Rope Length	Galvanized Aircraft Cable	304 Stainless Steel Wire Rope
(ft)	3/8" Dia. (9.5 mm)	3/8" Dia. (9.5 mm)
28	WA38-28DS	Model No.
36	WA38-36DS	Model No.
45	WA38-45DS	Model No.
60	WA38-60DS	Model No.
75	WA38-75DS	Model No.

PERFORMANCE

Admiral 3000 SPT30 Series Lift Below Floor¹ Level

Lift Below Floor		Wire Rope Diameter		Wire Rope Length		Winch Configurations	
Minimum (ft)	Maximum (ft)	(in)	(mm)	(ft)	(m)	(lbs)	(kg)
-4	-12	2	0.6	3/8"	10	28	85
4	12	10	3.0	3/8"	10	36	109
13	39	19	5.7	3/8"	10	45	137
28	85	34	10.3	3/8"	10	60	182
43	131	49	14.9	3/8"	10	75	228
58	176	64	19.5	3/8"	10	90	274
88	268	94	28.6	3/8"	10	120	365
118	359	124	37.7	3/8"	10	150	457
168	512	174	53.0	3/8"	10	200	609

¹Performance characteristics are for standard products. Non-standard products may vary from the original design. Contact Thern, Inc. for this information.
²Lift below floor level varies depending on boom position and base configuration. For longer lifts, please contact factory.



Winch Configurations



Admiral 3000 Performance Ratings

Boom Position	Load Rating	
	(lb)	(kg)
A-1	3,000	1,360
A-2	3,000	1,360
A-3	3,000	1,360
A-4	2,700	1,224
A-5	2,400	1,088
B-1	3,000	1,360
B-2	3,000	1,360
B-3	3,000	1,360
B-4	2,700	1,224
B-5	2,400	1,088
C-1	3,000	1,360
C-2	3,000	1,360
C-3	3,000	1,360
C-4	2,700	1,224
C-5	2,400	1,088

Admiral 3000 Pedestal Base Hook Height and Reach

Boom Position	Hook Reach (in)	Hook Height (mm)
A-1*	72	1,829
A-2*	82	2,083
A-3*	92	2,337
A-4*	102	2,591
A-5*	112	2,845
B-1 (fixed)	60	1,524
B-2 (fixed)	69	1,753
B-3 (fixed)	77	1,956
B-4 (fixed)	85	2,159
B-5 (fixed)	94	2,388
C-1*	46	1,169
C-2*	53	1,347
C-3*	59	1,499
C-4*	66	1,677
C-5*	72	1,829

* Boom position requires purchasing the screw jack.
Dimensions are for reference only and subject to change without notice.

Admiral 3000 Pedestal Base

SBP30 SBP30C SBP30X

Admiral 3000 Flush- or Wall-Mount Base Hook Height and Reach

Boom Position	Hook Reach (in)	Hook Height (mm)
A-1*	72	1,829
A-2*	82	2,083
A-3*	92	2,337
A-4*	102	2,591
A-5*	112	2,845
B-1 (fixed)	60	1,524
B-2 (fixed)	69	1,753
B-3 (fixed)	77	1,956
B-4 (fixed)	85	2,159
B-5 (fixed)	94	2,388
C-1*	46	1,169
C-2*	53	1,347
C-3*	59	1,499
C-4*	66	1,677
C-5*	72	1,829

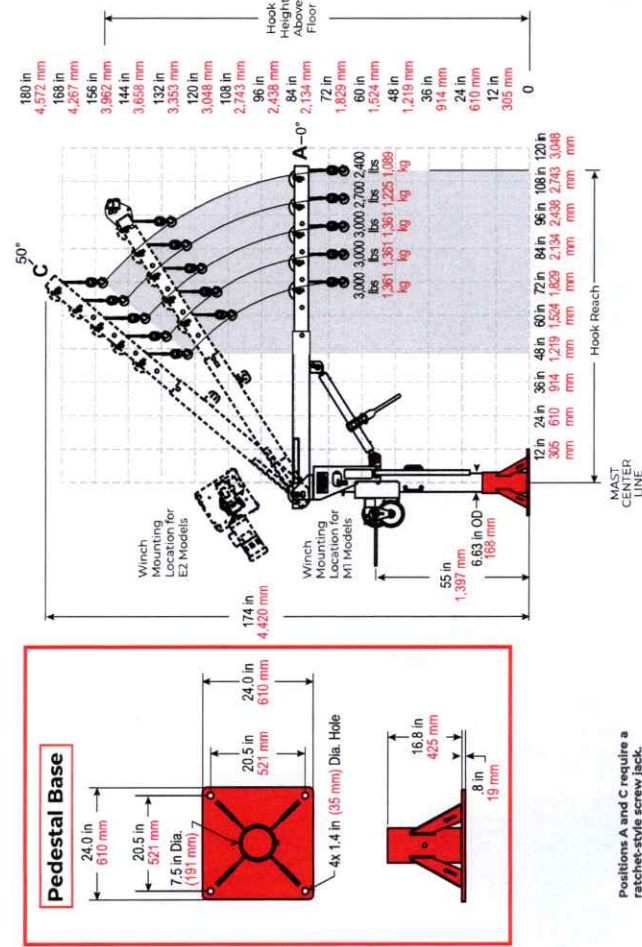
* Boom position requires purchasing the screw jack.
Dimensions are for reference only and subject to change without notice.

Admiral 3000 Flush-Mount Base

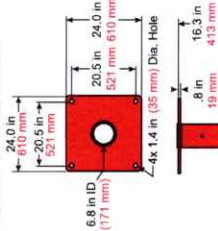
SBF30 SBF30C SBF30X

Admiral 3000 Wall-Mount Base

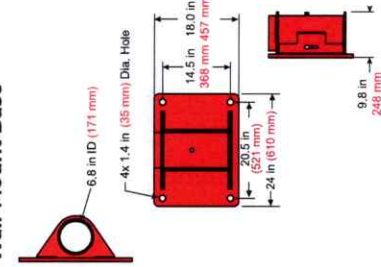
SBW30 SBW30C SBW30X



Flush-Mount Base



Wall-Mount Base



CRANE

OPTIONS & ACCESSORIES



Model	Description
ANS04-S	(4) Hitite zinc-plated steel fasteners 1/2" X 5.50" STL (SPAS, SPFS, and SPT5 cranes)
ANS04-S5	(4) Hitite 304 stainless-steel fasteners 1/2" X 5.50" SST304 (SPAS, SPFS, and SPT5 cranes)
ANS04A-5S316	(4) Hitite 316 stainless-steel fasteners 1/2" X 5.50" SST316 (SPAS, SPFS, and SPT5 cranes)
ANS04A-6	(4) Hitite zinc-plated steel fasteners 5/8" X 6.00" STL (SPA10, SPT10, SPT20, and SPT20 cranes)
ANS2A-6S	(4) Hitite 304 stainless-steel fasteners 5/8" X 6.00" SST304 (SPA10, SPT10, SPT20, and SPT20 cranes)
ANS2A-6S316	(4) Hitite 316 stainless-steel fasteners 5/8" X 6.00" SST316 (SPA10, SPT10, SPT20, and SPT20 cranes)



Model	Description
SP5LCK	For pedestal, wall, and flush-mount bases, 316 stainless steel—available for use SPAS, SPFS, and SPT5



Model	Description
RW50	316 stainless-steel reel winds up wire rope when detached from crane



Model	Description
RK19-25S	304 Stainless-steel bracket holds free end of the wire rope when detached from the crane
RK19-25S316	316 Stainless-steel bracket holds free end of the wire rope when detached from the crane



Model	Description
SPT10BRG	Red electrostatic, powder-coat paint finish
SPT10BRG-S	304 stainless-steel, electro-polished finish for added protection against corrosion
SPT10BRG-S316	Stainless-steel, electro-polished finish for maximum protection against corrosion
SPT10BRG-S5	304 stainless steel, for use with stainless-steel base only
SPT10BRG-S5316	316 stainless steel, for use with stainless-steel base only



Model	Description
SPT20BRG	Red electrostatic, powder-coat paint finish
SPT20BRG-S	304 stainless-steel, electro-polished finish for added protection against corrosion
SPT20BRG-S316	Stainless-steel, electro-polished finish for maximum protection against corrosion
SPT20BRG-S5	304 stainless steel, for use with stainless-steel base only
SPT20BRG-S5316	316 stainless steel, for use with stainless-steel base only



Model	Description
NOTE: Limit switch winch option requires purchase of Limit Switch and Headache Ball (sold separately)	
For SPFS, SPAS, SPA10, SPT5, SPT10, SPT20 Series Cranes (sold separately)	
E2L (SPAS, SPA10)	4WP2V-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel
E4L (SPAS, SPA10)	4WP2V-KL electric winch - 115/160 VAC with 6 ft pendant control - epoxy gray
E4L	4777E-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel
E4LX	4777E-KL electric winch - 115/160 VAC with 6 ft pendant control - epoxy gray
E4DCL	4777DC-KL electric winch - 12 volt DC with 10 ft pendant control - enamel
E4DCLX	4777DC-KL electric winch - 12 volt DC with 10 ft pendant control - epoxy gray
For SFT20 Series Crane Only (sold separately)	
E2L	4WP2-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel
E4L	4WP2E-KL electric winch - 115/160 VAC with 6 ft pendant control - epoxy gray
E4LX	4777E-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel finish
E4DCL	4777DC-KL electric winch - 12 volt DC with 10 ft pendant control - gray-epoxy finish
E4DCLX	4777DC-EGRA-KL electric winch - 12 volt DC with 10 ft pendant control - gray-epoxy finish
For SPT30, SFT25, SFT40 Series Crane Only (sold separately)	
E2L	3WGA9-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel finish
E4L	3WGA9E-KL electric winch - 115/160 VAC with 6 ft pendant control - epoxy gray finish
E4LX	3WGA9E-KL electric winch - 115/160 VAC with 6 ft pendant control - enamel finish
E4DCL	(Unavailable for use with SFT40)
E4DCLX	3WGA9E-KL electric winch - 115/160 VAC with 6 ft pendant control - epoxy gray finish



Model	Description
ED330-DW1	120 VAC, 11-amp, 330 rpm drill motor to power drive the hand winch. Only available for cranes configured with the M2 winch option. Includes 1/8" hex drive socket.
ED300-DW06	Cordless drill kit, 60 V brushless motor, 300 rpm drill motor to power drive the M2 hand winch option. Includes 1/8" hex drive socket.
ED400-DW09	Heavy-duty cordless drill kit, 60 V brushless motor, 400 rpm drill motor to power drive the M2 hand winch option. Includes 1/8" hex drive socket.



Model	Description
HB10-12-25	Red enamel painted 10 lb fits 1/8" to 1/4" rope
HB10-25-38	Red enamel painted 10 lb fits 1/4" to 3/8" rope
HB10S-12-25	Stainless-steel 10 lb fits 1/8" to 1/4" rope
HB10S-25-38	Stainless-steel 10 lb fits 1/4" to 3/8" rope
HB10S-44-50	Stainless-steel 10 lb fits 7/16" to 1/2" rope



Model	Description
SBE5-15	Available on SPFS, SPT5, SPT10, and SPT20 with powder-coat, galvanized, 304 & 316 stainless-steel, and epoxy finishes
SBE10-15	
SBE20-15	





MADE IN USA 

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PORTABLE ELECTRIC WINCH

ATLAS II 3WG4 SERIES



thern.com
(507) 454-2996

ATLAS II SERIES

PORTABLE ELECTRIC WINCHES



High-Power Capacity with Portable Convenience

The 3WG4 Series offers up to 4,600 pounds of secure lift and pull capacity, while retaining the versatility of a portable winch—just right for a variety of demanding applications. Lift or pull in any direction or orientation: floor, ceiling, or wall. Ideal for communication tower assembly, rail yards, steel operations, mining, heavy construction, and manufacturing applications.

Product Shown:
3WG4

Easy-to-Use Controls

- 115-volt pendant control and power cord included (3WG4, 3WG4-B, 3WG4-M)
- NEMA 4 rating for outdoor use

Premium Motor & Component Configurations

- Brushless-design, totally enclosed AC induction motor provides superior life
- Quiet operation in both directions
- 115-volt single phase standard, with other voltages available (single- and three-phase configurations)

Durable Winch Frame & Component Construction

- Cast aluminum gearbox (with enamel or optional epoxy coating) resists corrosion for extreme conditions and applications
- Painted steel frame resists elements and wear

Premium Gearbox Design

- Fully enclosed oil bath for reducer dissipates heat and provides continuous lubrication for long service life
- Double-worm gearing

Internal Mechanical Load Brake

- M-Models feature a spring-applied, electrically released motor disk brake
- B-Models feature an internal, mechanical brake to help control loads and facilitate safe operation
- Wet brake design on B-Models increases durability by dissipating heat and reducing wear

Enhanced Load Handling

- Large-capacity drum for long travel distances

PERFORMANCE

IMPERIAL				
Series	Load Rating	Power Supply	Line Speed	Drum Capacity
3WG4-B	4,000 lbs 1st layer	115 / 1 / 60	9–16 fpm	140–200 ft
3WG4-B	4,600 lbs 1st layer	230 / 3 / 60	13–24 fpm	140–200 ft
3WG4-M	4,000 lbs 1st layer	115 / 1 / 60	9–16 fpm	140–200 ft
3WG4-M	4,600 lbs 1st layer	230 / 3 / 60	13–24 fpm	140–200 ft
3WG4T-M	4,600 lbs 1st layer	230 / 3 / 60	13–28 fpm	220–300 ft

METRIC

Series	Load Rating	Power Supply	Line Speed	Drum Capacity
3WG4-B	1,814 kg 1st layer	115 / 1 / 60	2–4 mpm	42–60 m
3WG4-B	2,086 kg 1st layer	230 / 3 / 60	4–7 mpm	42–60 m
3WG4-M	1,814 kg 1st layer	115 / 1 / 60	2–4 mpm	42–60 m
3WG4-M	2,086 kg 1st layer	230 / 3 / 60	4–7 mpm	42–60 m
3WG4T-M	2,086 kg 1st layer	230 / 3 / 60	4–8 mpm	67–91 m

NOTICE: These products are not for lifting people or things over people.

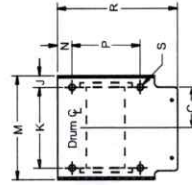
Refer to technical pages for detailed performance information.

TECHNICAL DRAWINGS & SPECIFICATIONS

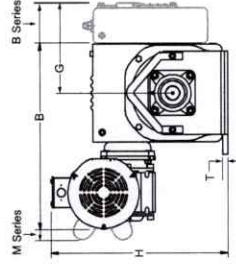
ATLAS II SERIES

PORTABLE ELECTRIC WINCHES

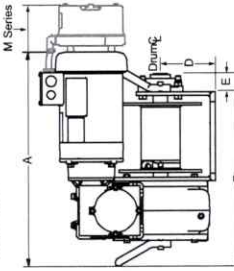
Mounting - Top View



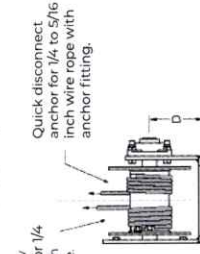
Side View



Back View



Cable Install



3WG4 Series Winch Dimensions

Model	Approx. Ship Wt. (lb)	A ¹	B ¹	C	D	E	F	G	H ¹	J	K	M	N	P	P	R	S	T																
3WG4-B3500-956	240	108	22.5	571	24.5	622	3.63	92	5.63	143	188	47	17.75	450	9.5	241	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-B3500-1356	245	111	23.5	596	24.5	622	3.63	92	5.63	143	188	47	17.75	450	9.5	241	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-B4000-956	235	106	23	584	24.5	622	3.63	92	5.63	143	188	47	17.75	450	9.5	241	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-B4600-956	245	111	23.5	596	24.5	622	3.63	92	5.63	143	188	47	17.75	450	9.5	241	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-B4600-1356	245	111	22	558	23.5	596	3.63	92	5.63	143	188	47	17.75	450	9.5	241	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-M3500-956	225	102	26.5	673	19.5	495	3.63	92	5.63	143	188	47	17.75	450	5.75	146	18	457	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-M3500-1356	235	106	28	711	21	533	3.63	92	5.63	143	188	47	17.75	450	5.75	146	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-M4000-956	235	106	28	711	20.5	520	3.63	92	5.63	143	188	47	17.75	450	5.75	146	18	457	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-M4600-956	235	106	28	711	21	533	3.63	92	5.63	143	188	47	17.75	450	5.75	146	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12
3WG4-M4600-1356	235	106	27.5	698	19.5	495	3.63	92	5.63	143	188	47	17.75	450	5.75	146	18.5	469	1	25	7	177	9	228	125	31	6	152	10.5	266	9/16	14	0.5	12

Dimensions A, B, and C are for reference only and subject to change without notice.
Dimensions M, N, P, and R are for reference only and subject to change without notice.

¹Dimensions A, B, and H may vary with motor selection. Dimensions are for reference only and subject to change without notice.

3WG4 Series Performance Characteristics

Model	Brake Style	Duty Rating ¹	Motor Codes	Motor (hp)	Load Pairing		Line Speed		Approx. Ship Wt. ²							
					1st Layer (lb)	Full Drum (lb)	1st Layer (fpm)	Full Drum (fpm)								
3WG4-B3500-956	Internal	15	B,C,D,E	1.5	3,500	1,587	2,500	1,134	1,900	861	9	2.7	16	4.9	186	85
3WG4-B3500-1356	Internal	15	B,C,D,E	2	3,500	1,587	2,500	1,134	1,900	861	13	4.0	24	7.3	191	87
3WG4-B4000-956	Internal	15	A	15	4,000	1,814	2,800	1,270	2,200	997	9	2.7	16	4.9	181	83
3WG4-B4600-956	Internal	15	B,C,D,E	2	4,600	2,086	3,300	1,496	2,500	1,134	9	2.7	16	4.9	191	87
3WG4-B4600-1356	Internal	15	C,D,E	3	4,600	2,086	3,300	1,496	2,500	1,134	13	4.0	24	7.3	190	87
3WG4-M3500-956	Motor	60	D,E	1.5	3,500	1,587	2,500	1,134	1,900	861	9	2.7	16	4.9	171	78
3WG4-M3500-1356	Motor	60	B,D,E	2	3,500	1,587	2,500	1,134	1,900	861	13	4.0	24	7.3	182	83
3WG4-M4000-956	Motor	60	A	1.5	4,000	1,814	2,800	1,270	2,200	997	9	2.7	16	4.9	181	83
3WG4-M4600-956	Motor	60	B,D,E	2	4,600	2,086	3,300	1,496	2,500	1,134	9	2.7	16	4.9	182	83
3WG4-M4600-1356	Motor	60	D,E	3	4,600	2,086	3,300	1,496	2,500	1,134	13	4.0	24	7.3	181	83

Please contact Thern or nearest Thern Distributor for firm, fixed price and delivery.

²Duty rating represents maximum operating time at full load. Rating includes lifting and lowering. Allow components to cool between cycles.

³Weight may vary with motor selection.

Control Options and Accessories

Model	Description	Approx. Ship Wt.
15SD ⁴	Electric motor controls 230/3/60 to 3hp	25 12

Please contact Thern or nearest Thern Distributor for firm, fixed price and delivery.

NOTES:

For more information and other control options, please see the Thern Motor Number (will need to be updated).

Custom controls are available. Control, variable speed control, electronic overload, and enclosures for special environments.

Motor Codes	
A	115 volt 1 phase
B	230 volt 1 phase
C	208 volt 3 phase
D	230 volt 3 phase
E	460 volt 3 phase
F	All other voltages, please contact Thern.

3WG4 Series Drum Capacities⁴

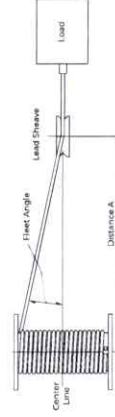
Model	Wire Rope Diameter (in)	Drum Layer						
		1st Layer		Mid Drum		Full Drum		
		(mm)	(ft)	(m)	(ft)	(m)	(ft)	(m)
3WG4-B/M	5/16	1.9	18	5.4	91	277	200	60.9
3WG4-B/M	3/8	9.5	14	4.2	65	19.8	140	42.6

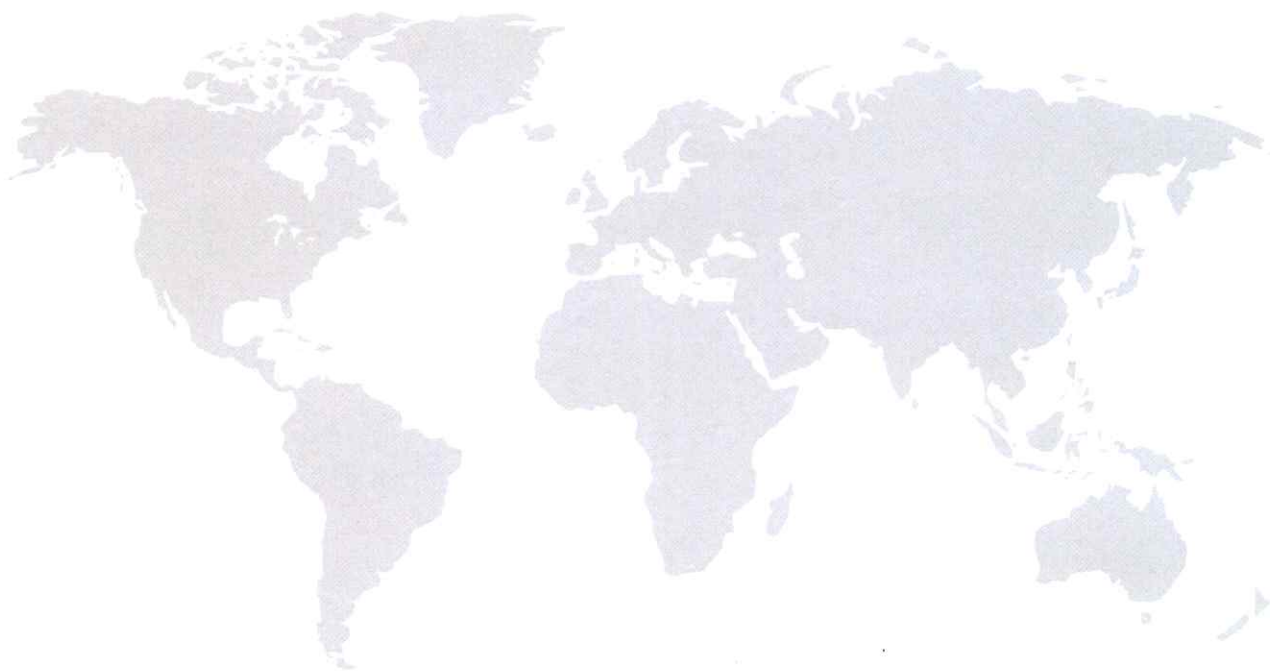
⁴Actual drum capacities may be 25-30% less due to nonuniform winding. Tension in wire rope will also affect drum capacity.

3WG4 Series Drum Dimensions

Model	Drum Dia. (in)	Flange Dia. (in)	Drum Width (in)	Flange Angle Distance (ft)			
3WG4-M	4.00	8.50	216	6.50	166	10.5	3.2

Dimensions are for reference only and subject to change without notice.
5Recommended minimum distance between drum and lead sleeve for smooth drum.





MADE IN USA 

Thern, Incorporated

World Headquarters
5712 Industrial Park Road Winona, MN USA
Toll Free: 1-800-843-7648
Phone: 1-507-454-2996
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Bedrijvenpark Twente 454e
7602 KM Almelo The Netherlands
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Item Specifications:

Item Number :	F261131E4L
Product Line :	Grating
Product Type :	Molded
Weight :	3.8 #/SF
Class :	Square Grid Molded with Grit
Trade Name :	McNICHOLS®
Major Material :	Fiberglass
Minor Material :	SGF
Color :	Yellow
Grit Color :	Yellow
Grid Size :	1-1/2
Grid Shape :	Square
Grid Height :	1.500
LWO Parallel To :	Not Applicable, Square Mesh
Surface :	Grit
Resin Name :	SGF Polyester
Percent Open Area :	70
Width :	48.0000
Length (Span for Grating) :	144.0000
SKU Type :	Panel
Fire Retardant Rating :	Yes
Grit Material :	Quartz
Resin Content :	Comp Glass/Mat/Resin
Grit Application :	Applied
Flame Spread Rating :	Class 1 - Per ASTM E84
Grit Texture :	Coarse
UV Protection :	UV Resistant
HS Item Number :	F261131E4L



Accessories:

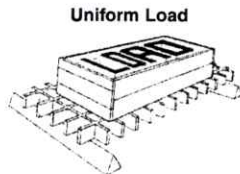
Angle	Clips, Anchors, Etc	Elevated Floor Pedestals
Kick Plate	Sealing Kits	

Options:

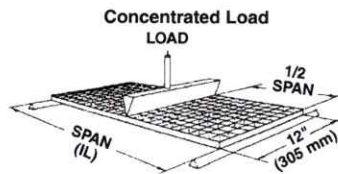
Angle Cutting	Straight line cutting to produce an angle other than 90 degrees
Circle Cutting	Shearing or sawing material in a circular path to a specified dimension.
Cut to Size	This describes the option of cutting a standard size into pieces of specified size with typically 90 degree corners. Used to describe this process regardless of what tool or machine is used to do the cutting.
Drawings Required	Drawings required to confirm material specifications, sizes or to aid in erection of the finished materials.
Install Toe Plate	The process by which a flat piece of material is attached to the edge of a piece of grating at a 90 degree angle to the surface and extending above the surface of the material, preventing a foot from extending over the edge of the grating
Notching	A type of cutting where material is removed from a portion of the edge of a product to specified dimensions resulting in a "cut-out" or notch in the edge of the material
Random Cutting	The process of cutting when material is cut to size without regard to any finished pattern or stub length.
Straight Cutting	Straight line cutting at a 90 degree angle to the edge of the material.

Applications:

Catwalk/Walkway	Material used as flooring on a raised pathway enabling movement from one area to another.
Flooring	Material used as flooring.
Part/Equipment	Products used as parts on equipment or machinery.
Platform/Deck/Mezzanine	Materials used in the construction of a mezzanine or platform up above the existing level.
Railings	Products used to form a physical barrier around an area or platform, typically a handrail.
Ramp	Material used in a gradual incline to get from one elevation to the next.
Trench/Grate/Drain	Material used to cover a long narrow hole, typically used for drainage



Uniform Load



Concentrated Load

c is concentrated load lbs/ft of width
 Δ c is deflection under concentrated load

u is uniform load lbs/ft
 Δ u is deflection under uniform load

Molded Fiberglass Grating

• Square • Rectangular Load Tables

SPAN	MS S-100 1" Ht.		Molded Square								LOAD TABLE	SAFE LOAD 5:1 SAFETY FACTOR
			50	100	150	200	250	300	400	500		
12"	Δ U	<.010	<.010	.013	.017	.021	.025	.034	.042		1360	
	Δ C	<.010	.014	.020	.027	.034	.041	.054	.068		680	
18"	Δ U	.021	.041	.062	.082	.103	.123	.164	.205		666	
	Δ C	.022	.044	.066	.088	.110	.131	.175	.219		500	
24"	Δ U	.064	.128	.192	.256	.320	.384	.512	.640		380	
	Δ C	.051	.102	.154	.205	.256	.307	.409	.512		380	
30"	Δ U	.155	.309	.464	.619	1'-1/2" X 1'-1/2" square mesh					240	
	Δ C	.099	.198	.297	.396						300	
36"	Δ U	.318	.635								160	
	Δ C	.169	.339								240	

SPAN		MS S-150 1-1/2" Ht.		Molded Square		LOAD TABLE				SAFE LOAD 5:1 SAFETY FACTOR
		50	100	150	200	250	300	400	500	
12"	Δ U	<.010	<.010	<.010	<.010	<.010	.011	.014	.018	3120
	Δ C	<.010	<.010	<.010	.011	.014	.017	.023	.028	1560
18"	Δ U	<.010	.014	.021	.028	.036	.043	.057	.071	1386
	Δ C	<.010	.015	.023	.030	.038	.046	.061	.076	1040
24"	Δ U	.021	.042	.063	.084	.104	.125	.167	.209	780
	Δ C	.017	.033	.050	.067	.084	.100	.134	.167	780
30"	Δ U	.047	.094	.141	.188	.235	.283	.377	.471	496
	Δ C	.030	.060	.090	.121	.151	.181	.241	.301	620
36"	Δ U	.096	.192	.288	.384	.480	.576			347
	Δ C	.051	.102	.154	.205	.256	.307			520
42"	Δ U	.175	.350	.525						251
	Δ C	.080	.160	.240						440
48"	Δ U	.287	.573							170
	Δ C	.115	.229							340

SPAN	Mini-Grid™ MS M-150 1-1/2" Ht. Molded Square								LOAD TABLE	SAFE LOAD 5:1 SAFETY FACTOR
		50	100	150	200	250	300	400	500	
12"	Δ U	<.010	<.010	.011	.014	.017	.021	.028	.035	3860
	Δ C	<.010	.011	.017	.022	.028	.034	.045	.056	1930
18"	Δ U	.013	.026	.039	.052	.065	.078	.104	.130	1776
	Δ C	.014	.028	.042	.056	.070	.084	.112	.139	1332
24"	Δ U	.025	.050	.075	.100	.126	.151	.201	.251	1052
	Δ C	.020	.040	.060	.080	.101	.121	.161	.201	1052
30"	Δ U	.055	.110	.165	.219	.274	.329	.439	.548	632
	Δ C	.035	.070	.105	.140	.176	.211	.281	.351	790
36"	Δ U	.087	.173	.260	.346	.433	.520	.692		456
	Δ C	.046	.092	.139	.185	.231	.277	.370		684
42"	Δ U	.150	.300	.450	.600					332
	Δ C	.069	.138	.207	.276					582
48"	Δ U	.245	.490	.735						215
	Δ C	.098	.196	.294						430

SPAN		MS S-200 2" Ht.		Molded Square				LOAD TABLE				SAFE LOAD 5:1 SAFETY FACTOR
		50	100	150	200	250	300	400	500			
12"	Δ U	<.010	<.010	<.010	<.010	<.010	<.010	<.010	.010		4000	
	Δ C	<.010	<.010	<.010	<.010	<.010	.010	.013	.016		2000	
18"	Δ U	<.010	<.010	.012	.016	.020	.024	.032	.040		1813	
	Δ C	<.010	<.010	.013	.017	.021	.026	.034	.043		1360	
24"	Δ U	.010	.021	.031	.042	.052	.063	.083	.104		960	
	Δ C	<.010	.017	.025	.033	.042	.050	.067	.083		960	
30"	Δ U	.023	.046	.069	.092	.114	.137	.183	.229		640	
	Δ C	.015	.029	.044	.059	.073	.088	.117	.146		800	
36"	Δ U	.044	.089	.133	.177	.222	.266	.355	.444		453	
	Δ C	.024	.047	.071	.095	.118	.142	.189	.237		680	
42"	Δ U	.082	.164	.245	.327	.409	.491	.654			831	
	Δ C	.037	.075	.112	.150	.187	.224	.299			580	
48"	Δ U	.135	.270	.405	.541	2" X 2" square mesh					260	
	Δ C	.054	.108	.162	.216						520	
54"	Δ U	.210	.420	.630	2" X 2" square mesh					204		
	Δ C	.075	.149	.224						560		

SPAN	MS R-100 1" Ht. Molded Rectangular		LOAD TABLE								SAFE LOAD 5:1 SAFETY FACTOR
			50	100	150	200	250	300	400	500	
12"	Δ U	<.010	<.010	<.010	.011	.014	.017	.022	.028	1960	
	Δ C	<.010	<.010	.013	.018	.022	.027	.035	.044	980	
18"	Δ U	.012	.025	.037	.049	.062	.074	.099	.123	960	
	Δ C	.013	.026	.039	.053	.066	.079	.105	.131	720	
24"	Δ U	.037	.074	.112	.149	.186	.223	.298	.372	560	
	Δ C	.030	.060	.089	.119	.149	.179	.238	.298	560	
30"	Δ U	.088	.176	.264	.352	.440	.528			336	
	Δ C	.056	.113	.169	.225	.282	.338	.451	.563	420	
36"	Δ U	.176	.353	.529						240	
	Δ C	.094	.188	.282						360	
42"	Δ U	.316	.632							183	
	Δ C	.144	.289							320	

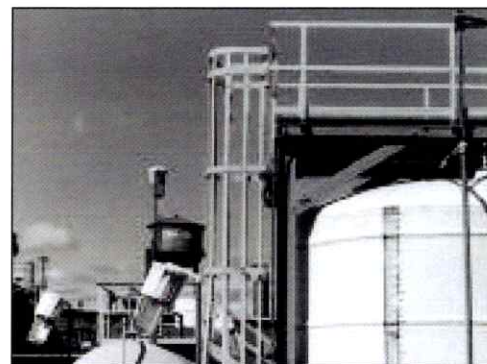
SPAN		MS R-150 1-1/2" Ht. Molded Rectangular								LOAD TABLE	SAFE LOAD 5:1 SAFETY FACTOR
			50	100	150	200	250	300	400	500	
12"	Δ U	<.010	<.010	<.010	<.010	.011	.014	.018	.023	4272	
	Δ C	<.010	<.010	.011	.015	.018	.022	.029	.037	2136	
18"	Δ U	<.010	.018	.027	.035	.044	.053	.071	.089	1712	
	Δ C	.010	.019	.028	.038	.047	.057	.076	.095	1284	
24"	Δ U	.019	.038	.056	.075	.094	.112	.150	.188	956	
	Δ C	.015	.030	.045	.060	.075	.090	.120	.150	956	
30"	Δ U	.039	.078	.117	.156	.195	.233	.311	.389	587	
	Δ C	.025	.050	.075	.100	.125	.150	.200	.250	734	
36"	Δ U	.071	.143	.214	.285	.357	.428			385	
	Δ C	.038	.076	.114	.152	.190	.228	.304	.381	578	
42"	Δ U	.126	.252	.378	.504	.630				370	
	Δ C	.058	.115	.173	.230	.288	1'-1/2" X 6" rectangular mesh			472	
48"	Δ U	.207	.414	.621							
	Δ C	.083	.160	.248						368	



Handrail is used on walkways and platforms for safe maintenance free worker access.



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Item Specifications:

Item Number :	60CM714259
Product Line :	Accessories
Product Type :	Clips, Anchors, Etc
Weight :	0.06 #/EA
Class :	Grating Fastener
Trade Name :	McNICHOLS®
Major Material :	Stainless Steel
Minor Material :	Type 316
Accessory Alias 1 :	Typ M2 1.5H 1.5Sq/RT
Accessory Alias 2 :	With Hardware
SKU Type :	Each
HS Item Number :	60CM714259



Accessories:

Hardware

Options:

There are currently no options for this item.

Applications:

See photographs of product applications.



Expansion Joint for High Vibration

16" OD Flanged Ends, Neoprene, Unthreaded Bolt Holes



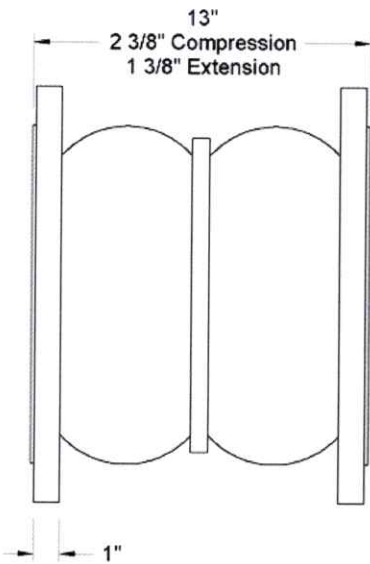
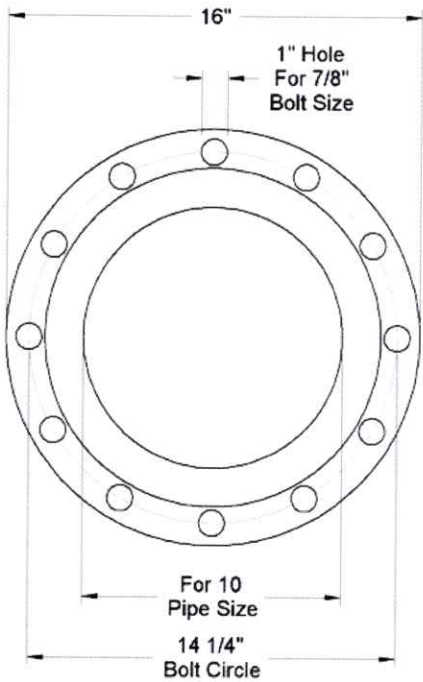
\$656.08 Each
6819K55

For Use With	Grain Alcohol, Nonabrasive Slurry, Water
Shape	Straight
Type	Connector, Expansion Joint
Connection Type	Pipe
Pipe Connection Type	Flanged
Flange OD	16"
Pipe Size	10
Length	13"
Number of Bolt Holes	12
Distance	
Compression	2 3/8"
Expansion	1 3/8"
Offset	1 3/8"
Maximum Pressure	220 psi @ 72° F
Burst Pressure	880 psi
Maximum Vacuum	26 in. of Hg @ 72° F
Temperature Range	-10° to 220° F
Expansion Joint Type	Double Bulb
Material	Neoprene Rubber
Reinforcement Material	Nylon Plastic
Flange Material	Zinc-Plated Steel
Gasket Required	No
For Flange Class	150
For Flange Surface	Flat
Features	Easy-Align Flanges
Bolt Hole Size	1"
Bolt Hole Type	Unthreaded
RoHS	RoHS 3 (2015/863/EU) Compliant
REACH	REACH (EC 1907/2006) (06/27/2024, 241 SVHC) Compliant
DFARS	Specialty Metals COTS-Exempt
Country of Origin	Peoples Republic of China
Schedule B	401699.6000
ECCN	EAR99
Related Product	Limit Rod Sets

These expansion joints have a double-bulb design for extra movement and vibration absorption. The flanged ends rotate for easy bolt hole alignment during installation. They mate with a same-size flat-surface Class 150 flange without the need for a gasket. Joints have a flexible body that is reinforced with nylon for added strength.

Attach limit rod sets (sold separately) to the flanges to prevent overextension where anchoring is insufficient. To accommodate the thickness of the limit rod mounting plate, use bolts that are 7/8" longer than

the bolts connecting the expansion joint to the pipe flange. Each set of limit rods requires eight bolts (not included).



1 3/8" Offset Distance

McMASTER-CARR 	PART NUMBER	6819K55
http://www.mcmaster.com © 2021 McMaster-Carr Supply Company Information in this drawing is provided for reference only.	Expansion Joint with Flange End for High Vibration	

The information in this 3-D model is provided for reference only.