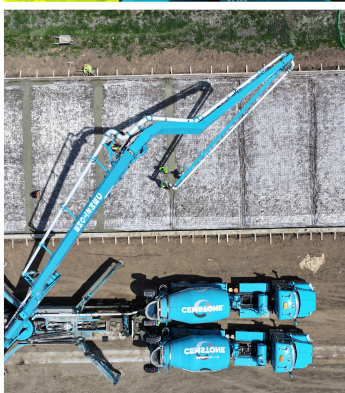


CEMSTONE[®]

CONCRETE PLACING SERVICE






CONCRETE PUMP & CONVEYOR EQUIPMENT GUIDE





MISSION

Our Mission **EVERY DAY** is to be a
TRUSTED PARTNER with
PASSIONATE PEOPLE creating
BUILDING MATERIALS
for a **BETTER TOMORROW.**

-  **DEMAND** Safety
-  **EXPECT** Integrity
-  **EMPOWER** Innovation
-  **DRIVE** Excellence
-  **EMBRACE** Collaboration



PAT GAGNON NAMED ACPA 2024 SAFE OPERATOR OF THE YEAR

Pat Gagnon, Pump Operator – Foreman at Cemstone, has been recognized as the **2024 Safe Operator of the Year** by the American Concrete Pumping Association (ACPA). The award was presented during the ACPA Annual Meeting at the 2025 World of Concrete in Las Vegas, NV. The Safe Operator of the Year award honors individuals with outstanding safety records, workforce development efforts, and commitment to the industry. Winners are selected by an independent safety consultant.

A Career of Excellence

Since joining Cemstone in 1995, Pat has operated every pump in the fleet and contributed to major projects including the Minnesota Twins and Vikings stadiums, the Stillwater Bridge, and multiple high-rise developments. With 35 years in the industry, Pat is known for his deep knowledge, safety focus, and mentorship of new operators. He's also a go-to expert for pump troubleshooting and plays a key role in fleet planning and equipment upgrades.

A Lasting Impact

Pat's dedication has helped shape Cemstone's success and earned him deep respect across the Twin Cities construction community.

congratulations



ACPA Certified Pump Operators

Cemstone Concrete Pump Operators are ACPA (American Concrete Pumping Association) Certified. The ACPA Certification is the only nationally recognized safety certification program for concrete pump operators.

The certification enables our operators achieve the highest degree of professionalism and maintain the strictest standards for safety.

This certification has been shown to improve safety, decrease accident rates in the workplace, and has become a critical standard for customers looking for a reliable, high quality pumping contractor.

Annual recertification also keeps operators focused on correct practices and safety procedures.

Annual Certified Boom Inspections

Cemstone conducts recertification boom inspections every two years by a certified structural inspector. This insures that our equipment will meet or exceed OSHA, and manufacturers' recommendations. In meeting the criteria of inspection and repairs, you can be certain we are doing everything possible to ensure the safety of our employees and customers.

Contents of this book are for quick reference only. Full technical specifications and information is available upon request.

TABLE OF CONTENTS

Line Pump Trucks	1
20 Meter • 4-section • 63 Foot Boom	3
31 Meter • 4-section • 100 Foot Boom	5
36 Meter • Roll and Fold • 4-section • 115 Foot Boom	7
36 Meter • Z Boom • 4-section • 115 Foot Boom	9
36 Meter • Razor Z-Boom • 4-section • 115 Foot Boom	11
38 Meter • 5-section • 122 Foot Boom	13
39 Meter • 4-section • 127 Foot Boom	15
46 Meter • 4-section • 154 Foot Boom	17
47 Meter • 5-section • 154 Foot Boom	19
61 Meter • 4-section • 197 Foot Boom	21
Free Standing Placing Boom-18 Meter	23
Mixer Mounted Concrete Conveyor Truck	25
High Rise Placing Boom	27
Rear Discharge Truck Average Dimensions	28
Front Discharge Truck Average Dimensions	29
Cemstone Pumpable Mixes	30
Contact Us	31
Pre-Pour Placing Safety Assessment	32
Placing Hand Signals	36



LINE PUMP TRUCKS

- Output 70 cy per hour
- Maximum pressure on concrete 1100 psi
- Maximum aggregate size 1.5"
- Concrete cylinder stroke length 39"
- Outlet diameter 5"
- 2", 2.5", 3" line system
- Hydraulic Pressure 4350 psi
- 5-7 ton legal

Easy maneuverability on job sites.



LINE PUMP HOSE OPTIONS

HOSE DIAMETER	LENGTH	WEIGHT EMPTY	WEIGHT FULL
2"	25'	40 lbs	120 lbs
2.5"	25'	60 lbs	190 lbs
3"	10'	50 lbs	120 lbs
4"	10'	60 lbs	190 lbs
5"	10'	70 lbs	280 lbs

** approximate weights*





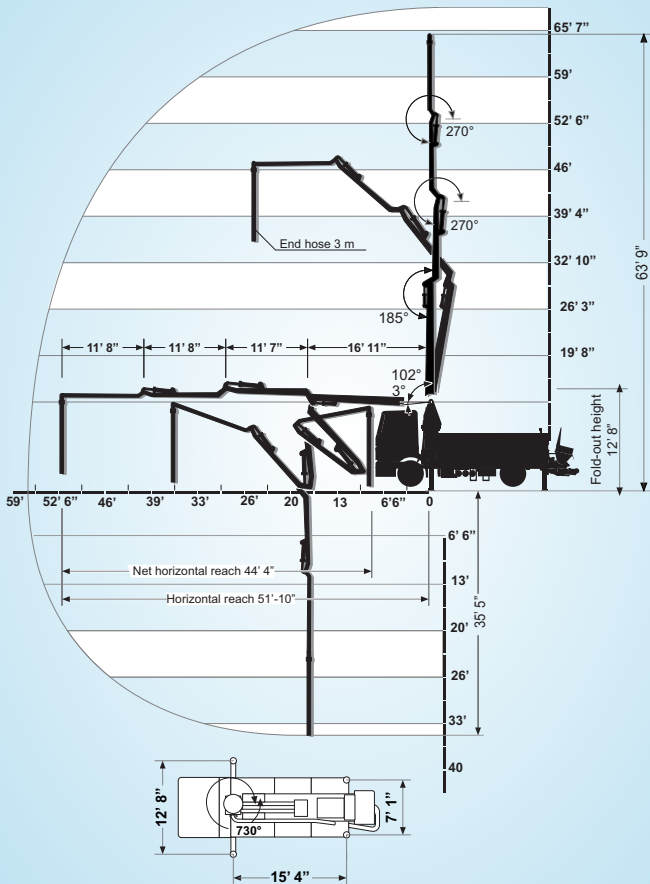
20 METER - 63-FOOT BOOM

- The S 20 offers a unique boom design in a compact package, affording pumpers, concrete contractors and specialty contractors a versatile tool to expand concrete pumping possibilities.
- 4-section boom
- Unfolding height 12' 8"
- Vertical reach is 63' 9"
- Net horizontal reach is 44' 4"
- 2", 2.5", 3" line system
- 7-ton legal

The Double Z is a short boom truck long on versatility (820 degrees of total articulation) and ideal for residential, specialty and commercial work.



20 METER





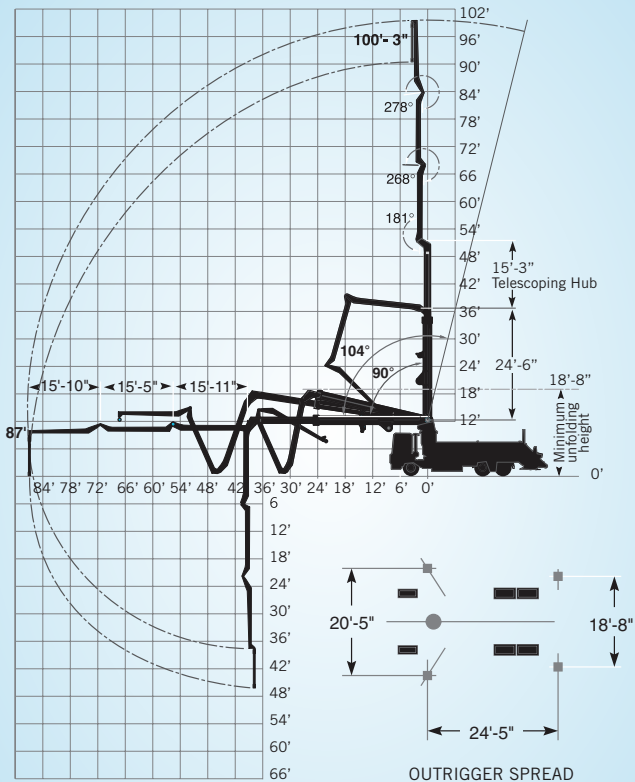
31 METER - 100-FOOT BOOM

- Outrigger spread is 20' 5"
- 4-section boom
- Minimum unfolding height is 18' 8"
- Vertical reach is 100' 3"
- Net horizontal reach is 84'
- Output 170 yards per hour
- 9-ton legal

Telescopic boom versatility combines with operational ease to provide maximum utilization.



31 METER





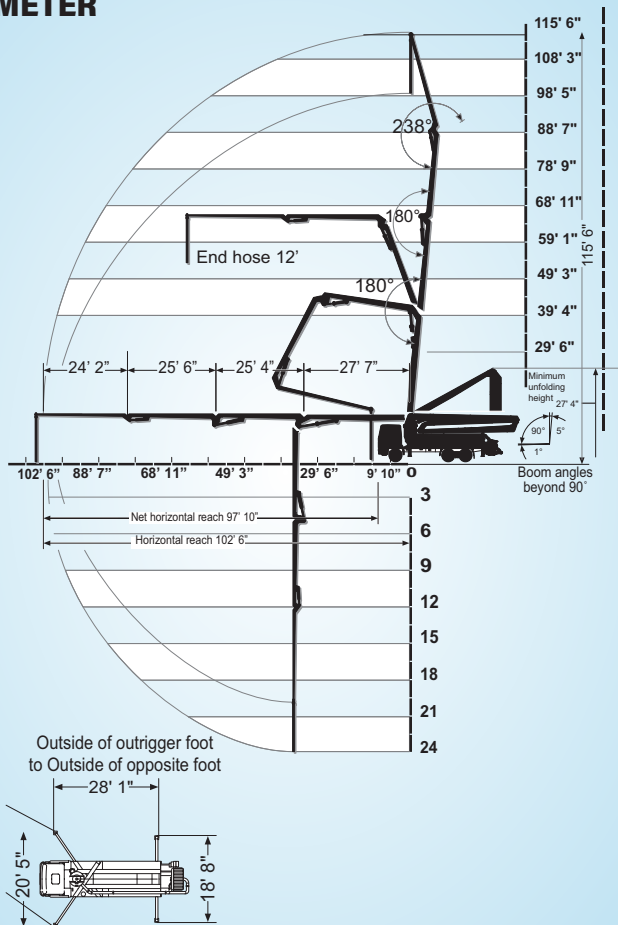
36 METER - 115-FOOT BOOM

- Roll and Fold® design of these booms you will enjoy low unfolding height and fast clean out
- Easy maneuverability for high utilization
- 4-section boom
- Unfolding Height 27' 4"
- Vertical reach is 115' 6"
- Net horizontal reach is 95' 1"
- 5-7 ton legal

Four-section boom versatility, impressive output and reliability.



36 METER





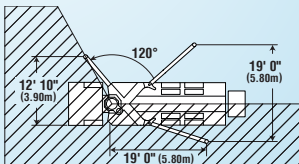
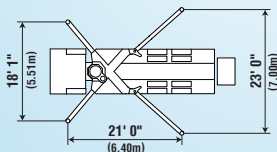
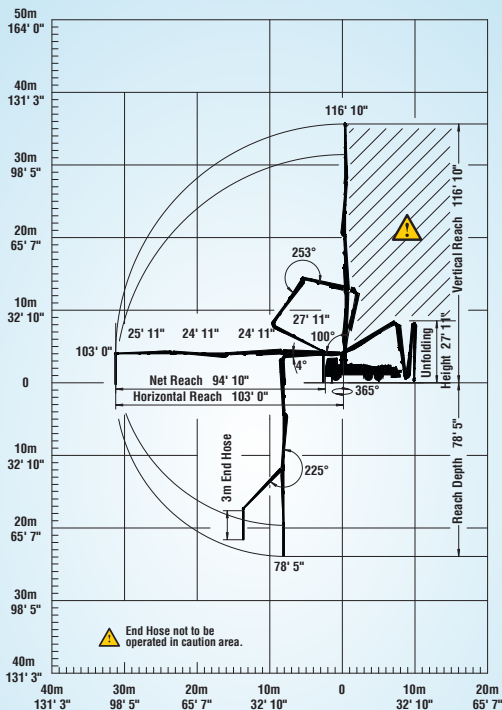
36 METER - Z-BOOM - 115-FOOT BOOM

- Multi-Z Boom design allows efficient operation in restricted headroom whether positioned inside or outside structure
- Easy maneuverability for high utilization
- 4-section boom
- Unfolding Height 27' 1"
- Vertical reach is 115' 6"
- Net horizontal reach is 95' 1"
- 5-ton legal

Powerful pumping performance with a small footprint makes it perfect for restrictive job sites.



36 METER-ZBoom

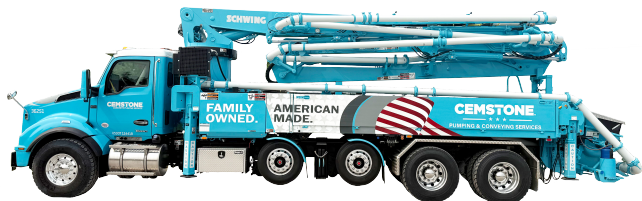




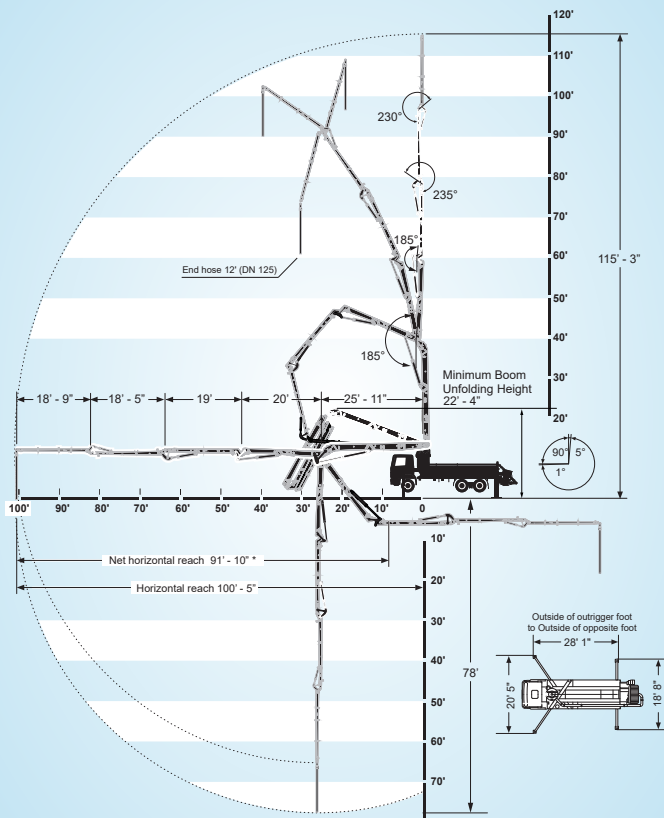
36 METER - RAZOR - 115-FOOT BOOM

- Multi-Z Boom design allows efficient operation in restricted headroom whether positioned inside or outside structure
- Easy maneuverability for high utilization
- 5-section boom
- RZ Folding
- Unfolding Height 22' 4"
- Vertical reach is 115' 6"
- Horizontal reach is 95' 1"
- 7-ton legal

Exceptional pumping power in a compact design, ideal for confined job sites.



36 METER-RAZOR





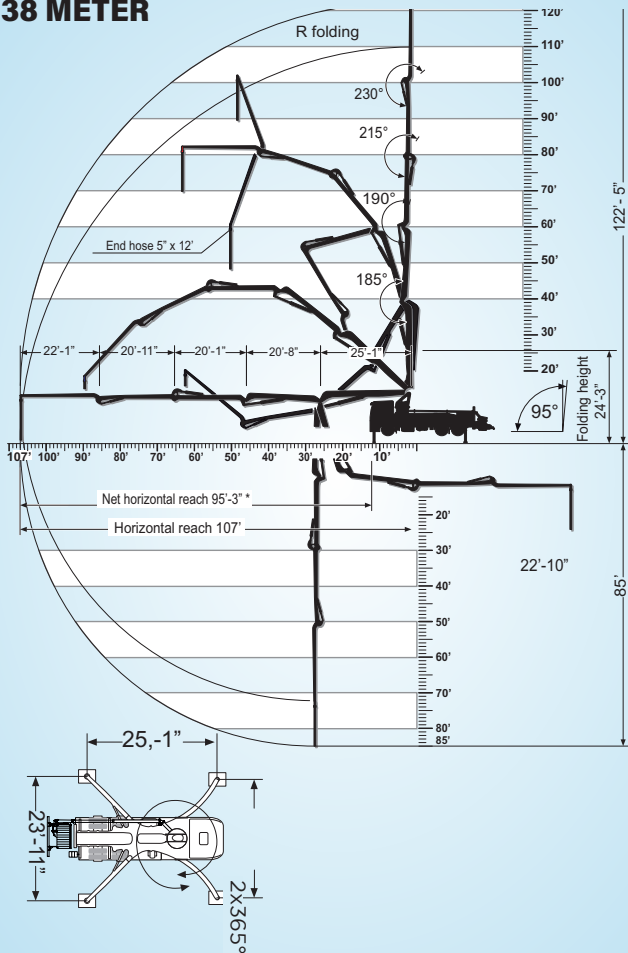
38 METER - 122-FOOT BOOM

- Easy Flex One-Sided Outrigger System
- 5-Section Hyper Extension Boom
- Vertical reach is 122' 5"
- Net horizontal reach is 107'
- Unfolding height is 24' 4"
- 7-ton legal

Unique 5-section boom that allows placement in hard to reach jobsites.



38 METER





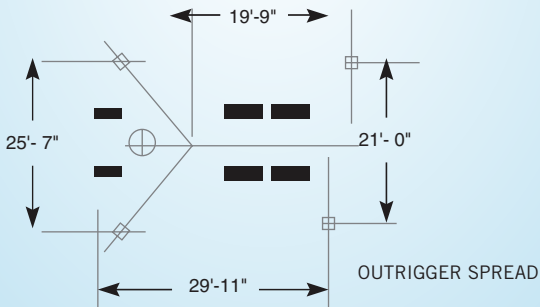
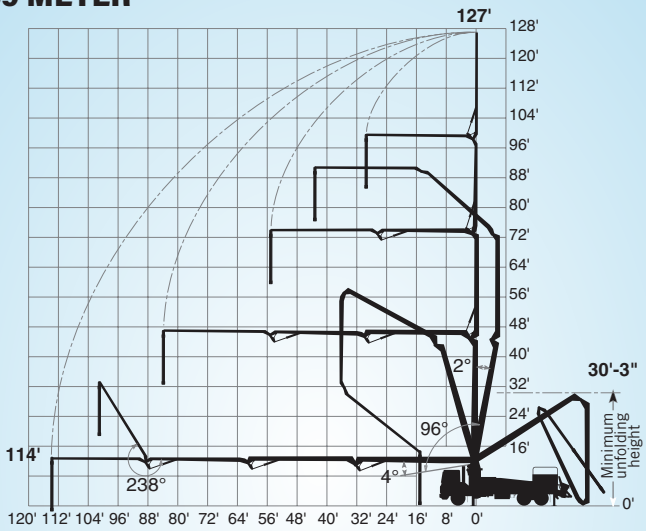
39 METER - 127-FOOT BOOM

- Detachable boom for job site versatility with a variety of mounting options including free-standing, form mounting or mast-mounting with floor frames.
- 4-section boom
- Vertical reach is 151' 3"
- Net horizontal reach is 134' 5"
- 9-ton legal

Ideal for any project - residential, commercial and industrial.



39 METER





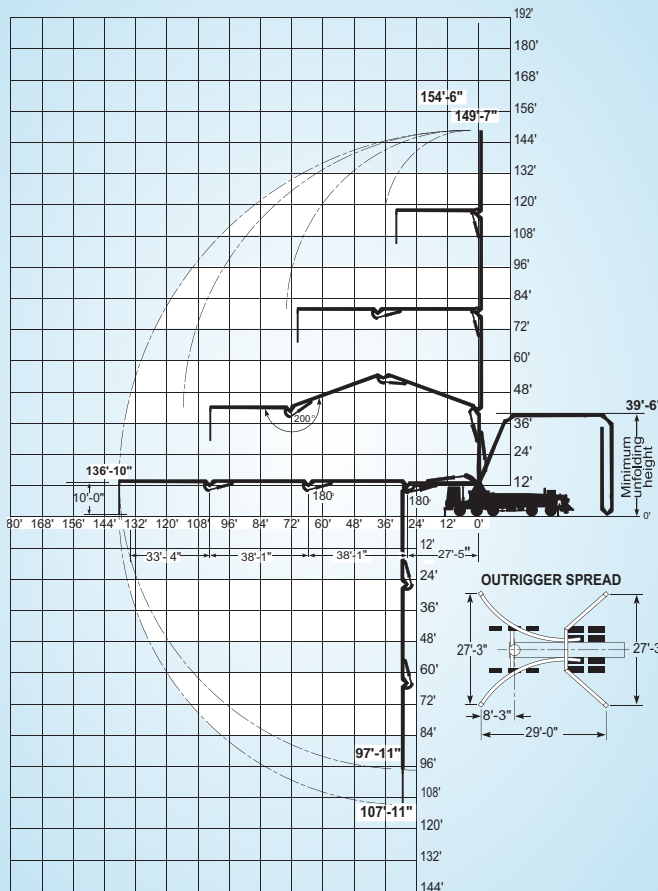
46 METER • 150-FOOT BOOM

- 4-section Overhead Roll and Fold®
- Vertical reach is 149' 7" - 154' 6"
- Net horizontal reach is 128' 10" - 130'
- Unfolding height 39' 6"
- 9-ton legal

Super X outriggers provide maximum stability with the smallest footprint. A proven workhorse for commercial and industrial long reach.



46 METER





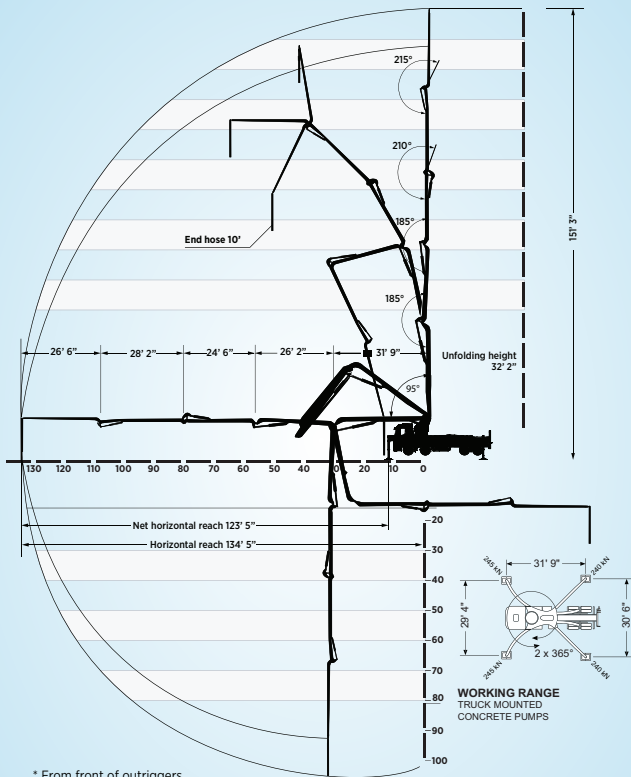
47 METER • 154-FOOT BOOM

- 5-section Overhead Roll and Fold®
- Vertical reach is 151'
- Net horizontal reach is 143'
- Unfolding height 32'
- 9-ton legal

Super X outriggers provide maximum stability with the smallest footprint. A proven workhorse for commercial and industrial long reach.



47 METER



* From front of outriggers

** From center of turret



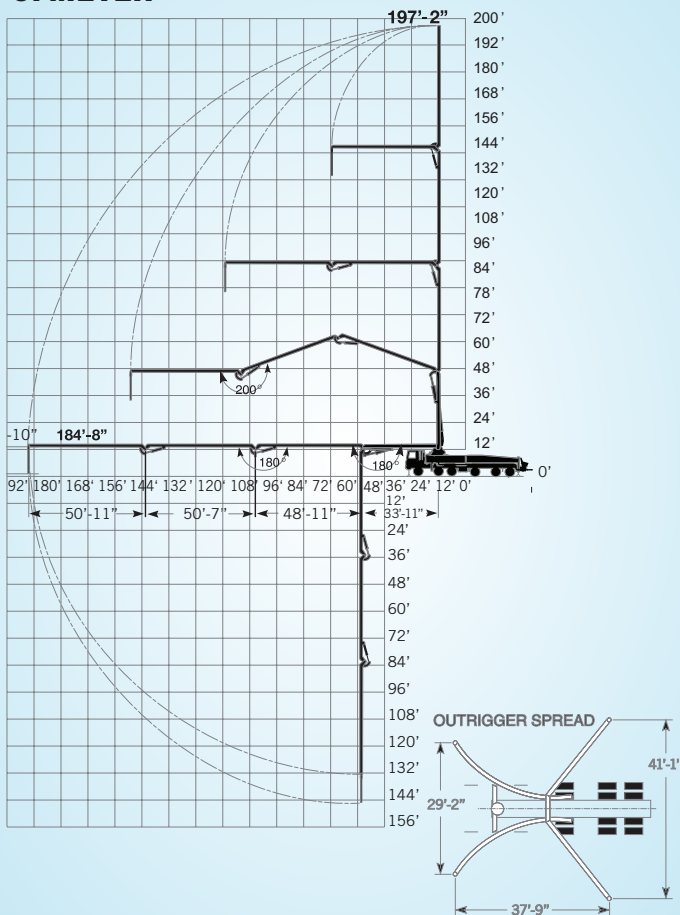
61 METER - 197-FOOT BOOM

- 4-section boom
- Section lengths:
1st section - 34' 3rd section - 50' 8"
2nd section - 49' 4th section - 51'
- Unfolding height 51' 9"
- Vertical reach is 197' 2"
- Net horizontal reach is 171' 9"
- Outrigger spread 41' 1"
- Overweight permits required daily - **24 hour notice required**

Our longest boom for high rise, commercial work.



61 METER





FREE STANDING PLACING BOOM 18 METER



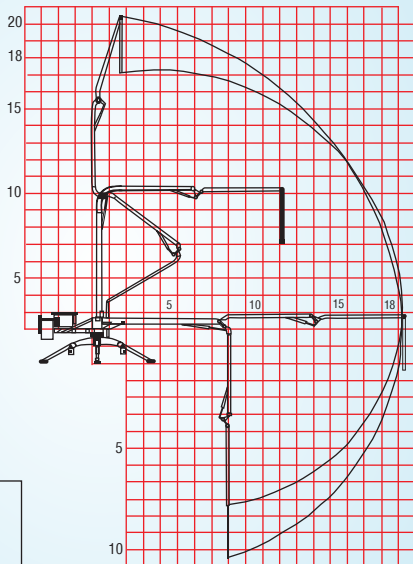
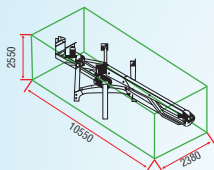
FREE STANDING PLACING BOOM - 18 METER

BHD 18+3 Series Technical Specifications

(Available in Freestanding Configuration only)

Transport Size

(4050Kg/8928.722 lbs)



- Electric motor - 220 Volt
- CE Certified
- Operator Supplied

Loads on slabs

BHD 18+3 : 3250 kg/7165.024 lbs

Counterweight : 2500 kg/5511.557 lbs

+ Concrete in Pipe : 1100 kg/2425.085 lbs

TOTAL WEIGHT 6850 kg/15101.669 lbs



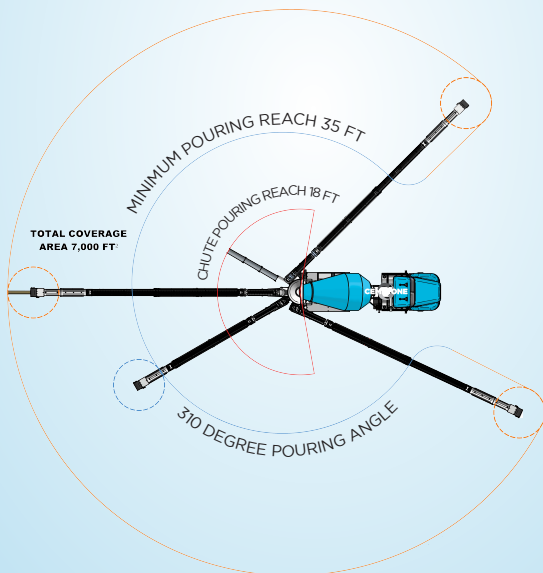
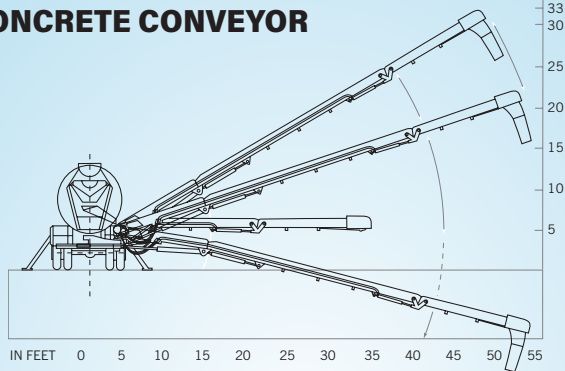
MIXER MOUNTED CONCRETE CONVEYOR TRUCK

- Outrigger spread 11'
- 50' horizontal reach
- 33/50' overall reach with telescoping maxi-swing pivot
- 30' maximum discharge height from ground
- 320° conveyor rotation
- 5-ton legal - empty
- 9-ton legal - 6-6.75 cubic yards

The best value for single load jobs conveying aggregate or concrete.



CONCRETE CONVEYOR

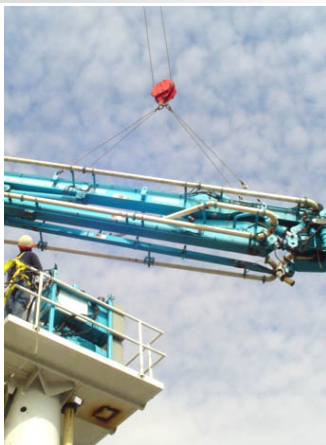




HIGH RISE PLACING BOOM

- Concrete placement speed as much as 50% faster than tower crane and bucket.
- 39 meter placing boom
- 114' reach
- Picking weight 17,700 lbs empty
- Trailer capability and availability on request

Specifically for high rise/long reach concrete placing applications.



REAR DISCHARGE TRUCK MAXIMUM DIMENSIONS



- Maximum Height 13 feet 6 inches
- Maximum Length 45 feet
(with a boost-a-load down)
- Maximum Width 9 feet 6 inches
- Turn Radius 37 feet
- Maximum Chute Length 16 feet

Note: These are MAXIMUM dimensions of rear discharge ready-mixed concrete trucks currently in our fleet.



FRONT DISCHARGE TRUCK MAXIMUM DIMENSIONS



- Maximum Height 13 feet 6 inches
- Maximum Length 40 feet
- Maximum Width 9 feet 6 inches
- Turn Radius 37 feet
- Maximum Chute Length 16 feet

Note: These are MAXIMUM dimensions of front discharge ready-mixed concrete trucks currently in our fleet.

CEMSTONE PUMPABLE MIXES



USAGE	MIX#	STRENGTH	NOTES	PUMPABILITY	AE
Interior	P5197	5000	Best Pumping	2" Line	2%
Exterior	P5196	5000	Best Pumping	2" Line	7.5%
COREFILL	B3198	3000	Max 200' line	2" Line	7.5%
Interior	Xtop	4000	Max 200' line	2" Line	2%
Interior	T4695	4500	Max 200' line	2" Line	2%
Interior	Xfloor2	4500	Max 200' line	2" Line	2%
Exterior	T4696	4500	Max 200' line	2" Line	7.5%
Exterior	T6196	6000	Max 200' line	2" Line	6.5%

Recommend 3/4" screen over hopper to filter large material

Extra yard of concrete if more than 100' of hose

30 minutes to unload full truck

USAGE	MIX#	STRENGTH	NOTES	PUMPABILITY	AE
Interior	P4165	4000	Max 200' line	3" Line	2%
Exterior	P4166	4000	Max 200' line	3" Line	6%
Interior	P4665	4500	Max 200' line	3" Line	2%
Exterior	P4666	4500	Max 200' line	3" Line	6%
Interior	P5165	5000	Max 200' line	3" Line	2%
Exterior	P5166	5000	Max 200' line	3" Line	6%
Interior w/Macro	P5197M	5000	Max 200' line	3" Line	2%
Interior w/Macro	P5165M	5000	Max 200' line	3" Line	2%

Extra yard of concrete if more than 100' of hose

Most mixes that are 3000 psi or greater pump through 4" or 5" line off the rear end or off the boom

PROFESSIONAL CONSULTATION & PLACEMENT SERVICES

THE CEMSTONE ADVANTAGE!

The **Cemstone Advantage** allows customers to get ready-mix, aggregate, placing equipment and placing services all in one partner. By providing pumps, conveyors, specialty equipment, ready-mix concrete, aggregates and expert operators in-house, Cemstone is the premier option for your project and can reliably serve your needs. Ask for a Professional Consultation today!

CEMSTONE CONCRETE PLACING SERVICES

MINNESOTA

Metro	651-686-4274
South	507-446-2410
North	320-676-3365

WISCONSIN

Central	715-429-1119
North	715-986-4442

CEMSTONE MINNESOTA DISPATCH CENTERS

CPC Metro	651-688-9520
CPC Northern Minnesota	320-251-8822
CCM Southern Minnesota	507-226-4210

CEMSTONE IOWA DISPATCH CENTER

CCM Iowa	515-955-6781
----------	--------------

WISCONSIN DISPATCH CENTERS

CRM Wisconsin	715-246-4238
---------------	--------------

CEMSTONE CONTRACTOR SUPPLY MAIN LOCATIONS

MINNESOTA

Eagan	651-905-1500
Mankato	507-345-7773
Rochester	507-252-1129
St. Cloud	320-251-6031

WISCONSIN

River Falls	715-425-1119
-------------	--------------

AGGREGATES

MINNESOTA

Metro	651-688-9526
North	800-955-6105
South	507-533-5113

WISCONSIN

New Richmond	715-246-4238
--------------	--------------

PRE-POUR PLACING SAFETY ASSESSMENT



If any conditions change after the Pre-Pour Placement Safety Assessment document has been signed, **notify** Cemstone Placing Dispatch Department **651-686-4274**

REMINDERS

- Review hand signals with pump operators before placing concrete.
- Wear approved hard hats, gloves, boots and safety glasses when placing ready mixed concrete to prevent cement burns.
- **NOTE:** Placing equipment must wash out at the plant.



PRE-POUR PLACING SAFETY ASSESSMENT

Customer: _____ Project Name: _____

Location: _____

Date of assessment completion: _____ Scheduled date of placement: _____

CONCRETE PUMPS/CONVEYORS

Placing Equipment Needed				Pump Setup Location	YES	NO	NA
Pump Size _____ System Size _____				Setup footprint large enough			
Feet _____				Location large enough to unfold boom			
Overhead Hazards / Obstruction Present	YES	NO	NA	Personal Protective Equipment (PPE)			
				Job/Building Entrance			
				Washout			
				Lightening			
Underground Hazards Present/Identified	YES	NO	NA	Safe Access for RM Trucks			
				15' wide for one truck	YES	NO	NA
				25' wide for two trucks			
				Other obstacles			
Excavation Hazards	YES	NO	NA	Traffic Control			
				Lane closure (if yes, diagram below)	YES	NO	NA
				Signage, barricades			
				Barrels			
Adequate space to maintain 1 to 1				Cones			
Soil condition acceptable				Traffic Direction (Trained Flagman)			
Additional cribbing required (by contractor)				Designated Trained Person to Back RM Truck to Pump			
				Name (print)			

DEMAND SAFETY

PLACING BOOM & MINI PLACER

	YES	NO	NA		YES	NO	NA
Will equipment sit on ground				Adequate space/clearance from structure to operate equipment			
Will equipment sit on elevated structure				Power lines or other obstruction present			
If on structure, has structural engineering for loads been completed				Access to site by semi/trailer to deliver equipment			
If yes, do we have a copy				Adequate Capacity of crane/lift along with proper rigging to unload and put equipment in place			
If on ground, are ground conditions suitable				Certificate of Insurance received			
If power is necessary, supply properly installed by licensed electrician				Waiver of Liability received			
Proper ventilation required to run Spider Boom indoors (gas engine)							

PRE-POUR PLACING SAFETY ASSESSMENT



PERMISSIBLE PRESSURES ON VARIOUS TYPES OF

SOIL

Virgin ground	22 psi
Asphalt, min. 8" thick	29 psi
Compressed crushed stone	36 psi
Clay/silt soil, firm	43 psi
Mixed granular soil	51 psi
Firm compacted soil	58 psi
More compacted	72 psi
More compacted (e.g. class 5)	109 psi
Brittle weathered rock	145 psi

To calculate soil pressure:

Divide the force on the outrigger leg (from the decal) by the number of square inches of soil contact.

PSI=LOAD ÷ AREA

PSI=Pressure on the soil

Load=Force in pounds

Area=Square inches of soil contact

EXAMPLE: Load bearing capacity of the soil (8 inches of asphalt) = 29 PSI

Force on the soil by the outrigger leg = 40,000 Pounds (from decal)

Pad on outrigger = 12" x 12" (144 square inches)

$40,000 \div 144 = 278 \text{ PSI}$

In this example you could expect the outrigger to sink into the asphalt and cause a tip over. To prevent this, you install additional cribbing:

Additional cribbing = 40" x 40" (1600 square inches)

Now asphalt will support the outrigger.

HOSE WHIPPING



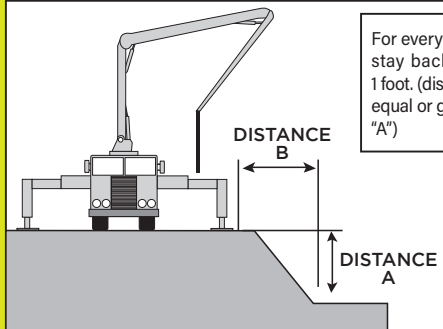
CAUTION

Remove everyone from the discharge area whenever the pump is first starting, restarting after moving, or if air has been introduced into the line.



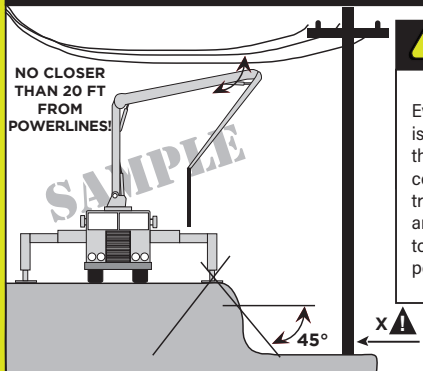
PRE-POUR PLACING SAFETY ASSESSMENT

THE 1 TO 1 RULE



For every 1 foot of vertical drop, stay back from the base edge 1 foot. (distance "B" must be equal or greater than distance "A")

OVERHEAD CONSIDERATIONS



WARNING

Even though the bottom is at a 1 to 1 ratio with the top, this cliff could collapse. Outrigger force is transmitted at a 45° angle, and there is no material to support the force at point X.

CONCRETE PLACING HAND SIGNALS



**START PUMP
SPEED UP**
Bomba de arranque Acelerar



**SLOW PUMP
DOWN**
Bombeo lento



STOP PUMP
Bomba de parada



LITTLE BIT
Un poco



**RELIEVE
PRESSURE**
Aliviar la presión



**ADD WATER
4-GALLONS**
Agregue 4 galones de agua



**ALL DONE
CLEAN UP**
Todo listo Limpiar



BOOM UP
Pluma arriba



BOOM DOWN
Pluma abajo



BOOM LEFT
Pluma a la izquierda



BOOM RIGHT
Pluma a la derecha



**OPEN OR
EXTEND BOOM**
Abrir o extender la pluma



**CLOSE OR
RETRACT BOOM**
Cierre o retraiga la pluma



STOP BOOM
Detener la pluma

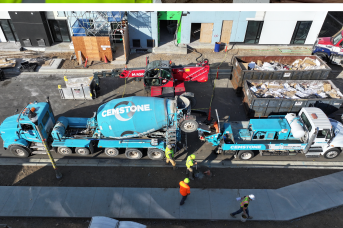


**OK TO
APPROACH HOSE**
OK para acercarse a la manguera



**MOVE AWAY FROM
THE HOSE**
Alejarse de la manguera





This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Roseville Water Treatment Facility



651.686.4274



2025 Centre Pointe Boulevard
Mendota Heights, MN 55120



cemstone.com