CENTEK INDUSTRIES.INC



The world leader in Wet Marine Exhaust Systems.

Welcome

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Guide to Product Selection

Centek Industries manufactures the most complete line of "wet marine exhaust products" in the industry to accommodate a wide range of installations safely and efficiently Choosing the best unit for a particular installation depends upon engine location, noise reduction efficiency, exhaust system size and safety considerations.

Exhaust System

Exhaust system size (diameter) must be sufficient to carry the exhaust gases and cooling water throughout its length without exceeding the engine manufacturer's allowable back pressure. The inlet and outlet diameter of the muffler should match the system diameter.

The higher the power rating of the engine, the bigger the exhaust system will need to be. Gasoline engines generally have a greater tolerance to higher back pressure than diesel engines. A diesel engine having the same power rating as a gasoline engine will require a larger exhaust system diameter since its exhaust gas flow and cooling water flow will be higher. The diesel engine will also have a lower back pressure limit.

You may refer to the chart on page 1-2 for a general guide to proper exhaust system size, or call Centek for specific recommendations.

Engine Location

Is the engine above or below the water line?

In sailboats many engines and gensets are at or below the water line and need a lift muffler to collect and hold the cooling water, then lift it above the water line where it can drain safely to the thru hull fitting. The Vernalift design provides four different configurations to accommodate various installations. Proper installation of the Vernalift is critical; follow the installation instruction sheet carefully

For vessels with engines installed above the water line, as on most power boats, inline wet mufflers are the traditional choice, although lift mufflers may be used as well. Centek Industries makes five different types of inline mufflers, each of which offers several configurations. For gasoline and 4-cycle diesel installations on boats with room to accommodate any of the muffler units, we recommend the Vernatone or MCI H. For 2-cycle diesel engines and installations where maximum noise reduction is desired, we recommend the Super II inline muffler. Installation instructions must be followed carefully; incorrect or incomplete installation can result in engine failure.

Noise Reduction

Many different muffler models may be available for a specific installation, with designs that provide varying degrees of noise reduction. Muffler size, cost and noise reduction tend to increase in tandem. Centek's list of inline mufflers generally appear in increasing order of acoustical efficiency Lift mufflers are becoming popular in all types of installations due to their excellent silencing capability The latest lift muffler, a dual chamber unit, is among the quietest products available for specific installations.

Safety Considerations

To insure the safety of the craft and those on board, exhaust systems must be properly installed. The wet systems pump water at flow rates that could quickly sink a boat. Gasoline engines produce dangerous levels of carbon monoxide. Approved rubber exhaust hose should always be used with a minimum of two stainless steel clamps at each connection end. Never over tighten ends. Exhaust thru hulls should be placed above the LWL and located to avoid the possibility of drawing gases back into the boats.

All Centek exhaust products are constructed of fire retardant polyester resins, carrying ratings of "self-extinguishing" under ASTM-D-635. Mufflers, tubing and parts are ABS certified. Vernatube is listed by Underwriters Laboratories Marine Department (listed 699A). The new Vernalifts (1500 series) meet or exceed ABYC recommendations.

If you need help choosing wet exhaust system components, call toll free (800) 950-7653 or send a fax to (912) 228-1270.

Exhaust System Size

GENERAL RECOMMENDATIONS CHART

| SIZE | MAXIMU | JM H.P. | SIZE | MAXIMUM H.P. | | | | |
|---------------|---------|-----------|------------|--------------|--------|--|--|--|
| (DIA. "A") | GASOLIN | NE DIESEL | (DIA. "A") | GASOLINE | DIESEL | | | |
| 1.5" OR 1.63" | 30 | 10 | 4.51' | 320 | 170 | | | |
| 211 | 60 | 25 | 51, | 370 | 210 | | | |
| 2.5" | 110 | 40 | 6" | 440 | 280 | | | |
| 3" | 160 | 60 | 8 " | - | 420 | | | |
| 3.5" | 220 | 85 | 1011 | | 680 | | | |
| 41' | 280 | 125 | 12" | | 900 | | | |
| | | | | | | | | |

The muffler outlet must match the downstream portion of the system. For V-Block engines with separate mufflers for each bank, divide the H.P. by 2 and match to the appropriate size.

This table is for general recommendations only. If you have questions or need help, call (800)950-7653.

Selection Summary

- Determine the position of the engine with respect to the LWL (Loaded Water Line).
- Engine above the LWL use Vernatone (TM), MK II, Vernatone Super II, Minimax or Verna-Ski.
- Engine below LWL, use Vernalift only.

Introduction

There are five basic sources of noise in boats. They are: Engine Exhaust Engine Intake Air Engine Mechanical Noise Transmission Hull to Water

Wet marine exhaust silencers address the noise problems in engine exhaust only. The "dB" reduction referred to in the following graph refers only to exhaust noise, using a VERNATONE in a typical installation.





Vernatone TM

Over the course of the past thirty five years, the VERNATONE has been accepted as standard equipment by the world's boat builders in more installations than all competitive products combined. VERNATONE is carefully engineered to minimize back pressure while giving outstanding exhaust noise reduction. This all fiberglass muffler will not corrode or deteriorate when exposed to fresh or salt water in combination with either diesel or gasoline exhaust fumes. Electrolysis is eliminated and noxious objectionable odors are reduced. Its design and the suitability of the materials from which it is manufactured is proven over time. There are many of these units still in use after more than 35 years of operation!

The VERNATONE family of in-line type silencers has grown during its long history in the marine industry. This growth has been in response to the varied requests of a long list of customers. They have asked for product variations to suit their special and particular needs. These mufflers had to suit every type of marine engine boat builders have selected for primary propulsion power, auxiliary power or electrical generation power. Centek is proud to offer this expanded family of products which will silence the exhaust noise from engines whose outputs range from 5 to 2000 HP.

VERNA-SKITM

| | Æ | Α | | B | C | - | D |
|---------|------|-----|------|-----|-------|------|--------|
| | 1/ | 1/0 | | IA | LG | ГΗ | FIGURE |
| PART # | INCH | MM | INCH | MM | INCH | MM | |
| 1000216 | 3.00 | 76 | 4.38 | 111 | 43.00 | 1092 | Fig. 1 |
| 1000217 | 3.00 | 76 | 4.38 | 111 | 40.00 | 1016 | Fig. 2 |
| 1000262 | 3.50 | 89 | 4.38 | 111 | 42.00 | 1067 | Fig. 1 |
| 1000266 | 3.50 | 89 | 4.38 | 111 | 40.00 | 1016 | Fig. 2 |
| 1000265 | 4.00 | 102 | 4.38 | 111 | 44.00 | 1118 | Fig. 1 |
| 1000267 | 4.00 | 102 | 4.38 | 111 | 40.00 | 1016 | Fig. 2 |





VERNA-SKI MUFFLERS



MINIMAX

| | Α | | В | 5 | C | | D | | | |
|---------|------|-----|-------|-----|-------|-----------|----------|-------------|--|--|
| J | I/C |) | DI | A | LGT | <u>'H</u> | <u> </u> | <u>.GTH</u> | | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | | |
| 1050250 | 2.50 | 64 | 6.38 | 162 | 12.75 | 324 | 2.00 | 51 | | |
| 1050300 | 3.00 | 76 | 6.38 | 162 | 13.75 | 349 | 2.50 | 64 | | |
| 1050350 | 3.50 | 89 | 6.38 | 162 | 14.75 | 375 | 2.50 | 64 | | |
| 1050400 | 4.00 | 102 | 8.38 | 213 | 16.75 | 425 | 3.00 | 76 | | |
| 1050450 | 4.50 | 114 | 8.38 | 213 | 18.75 | 476 | 3.00 | 76 | | |
| 1050500 | 5.00 | 127 | 8.38 | 213 | 20.75 | 527 | 3.50 | 89 | | |
| 1050600 | 6.00 | 152 | 10.04 | 255 | 25.00 | 635 | 4.00 | 102 | | |





MINI-MAX

THE VERNATONE™ ROUND

| | A I /O | | В | | C | 2 | D | | | |
|---------|-----------|-----|-------|-----|-------|------|--------|-----|--|--|
| | | | DI | Α | LG | гн | I/O LO | GTH | | |
| PART # | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM | | |
| 1000103 | 2.50 | 64 | 5.58 | 142 | 21.62 | 549 | 3.00 | 76 | | |
| 1000104 | 3.00 | 76 | 7.07 | 180 | 25.84 | 656 | 3.50 | 89 | | |
| 1000105 | 3.50 | 89 | 8.09 | 205 | 30.00 | 762 | 3.50 | 89 | | |
| 1000106 | 4.00 | 102 | 9.06 | 230 | 33.69 | 856 | 3.50 | 89 | | |
| 1000107 | 4.50 | 114 | 10.10 | 257 | 35.62 | 905 | 4.00 | 102 | | |
| 1000108 | 5.00 | 127 | 11.00 | 279 | 38.75 | 984 | 4.40 | 112 | | |
| 1000111 | 6.00 | 152 | 12.20 | 310 | 41.50 | 1054 | 5.00 | 127 | | |
| 1000120 | 8.00 | 203 | 16.21 | 412 | 39.62 | 1006 | 6.00 | 152 | | |
| OTHERS | | | | | | | | | | |
| 1000145 | 3.00 | 76 | 7.07 | 180 | 20.12 | 511 | 3.50 | 89 | | |
| 1000165 | 4.00 | 102 | 9.06 | 230 | 25.50 | 648 | 3.50 | 89 | | |
| 1000112 | 6.00 | 152 | 12.20 | 310 | 31.43 | 798 | 5.00 | 127 | | |
| 1000113 | 6.00 | 152 | 16.21 | 412 | 52.75 | 1340 | 6.00 | 152 | | |
| 1000117 | 6.00 | 152 | 16.21 | 412 | 39.62 | 1006 | 6.00 | 152 | | |
| 1000119 | 8.00 | 203 | 16.21 | 412 | 52.75 | 1340 | 6.00 | 152 | | |
| 1000235 | 10.00 | 254 | 16.21 | 412 | 52.00 | 1321 | 7.50 | 191 | | |



VERNATONE - ROUND

VERNATONETM - ROUND PORT & STARBOARD

| | Α | | В | | С | | Ľ |) | F | |
|----------------|------|-----|-------|-----|-------|-----|---------|-----|-------|-------|
| | I/O | | HGT | | LGTH | | I/O LG7 | | I/O O | FFSET |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1000241 - PORT | 4.00 | 102 | 8.00 | 203 | 27.00 | 686 | 4.00 | 102 | 2.38 | 60 |
| 1000242 - STBD | 4.00 | 102 | 8.00 | 203 | 27.00 | 686 | 4.00 | 102 | 2.38 | 60 |
| 1000249 - PORT | 5.00 | 127 | 10.00 | 254 | 35.63 | 905 | 4.75 | 121 | 3.08 | 78 |
| 1000250 - STBD | 5.00 | 127 | 10.00 | 254 | 35.63 | 905 | 4.75 | 121 | 3.08 | 78 |



VERNATONE - ROUND P & S

(PORT MUFFLER SHOWN)

VERNATONETM - OVAL HORIZONTAL MOUNT

| | Α | Α | | 3 | C | | Ľ |) | E | | |
|---------|-------|-----|-------|-----|-------|------|----------|-----|-------|-----|--|
| | I/(| C | HGT | | LGTH | | I/O LGTH | | WI | DTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | |
| 1000229 | 5.00 | 127 | 7.00 | 178 | 35.13 | 892 | 5.00 | 127 | 14.75 | 375 | |
| 1000139 | 8.00 | 203 | 12.00 | 305 | 54.50 | 1384 | 5.70 | 145 | 19.00 | 483 | |
| 1000194 | 10.00 | 254 | 14.50 | 368 | 65.50 | 1664 | 7.50 | 191 | 24.50 | 622 | |



VERNATONE - HORIZONTAL

VERNATONETM - OVAL VERTICAL MOUNT

| | Α | | В | | C | | D | | Ε | |
|---------|-------|-----|-------|-----|-------|-------------|------|-----|-------|-----|
| | I/0 | С | HGT | | LGT | TH I/O LGTH | | WI | WIDTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1000127 | 4.50 | 114 | 14.75 | 375 | 35.62 | 905 | 5.25 | 133 | 7.00 | 178 |
| 1000269 | 5.00 | 127 | 14.75 | 375 | 35.62 | 905 | 5.25 | 133 | 7.00 | 178 |
| 1000115 | 6.00 | 152 | 15.12 | 384 | 42.50 | 1080 | 5.00 | 127 | 9.00 | 229 |
| 1000118 | 6.00 | 152 | 15.12 | 384 | 32.00 | 813 | 5.00 | 127 | 9.00 | 229 |
| 1000121 | 8.00 | 203 | 19.00 | 483 | 54.00 | 1372 | 5.70 | 145 | 12.00 | 305 |
| 1000122 | 8.00 | 203 | 19.00 | 483 | 39.00 | 991 | 5.70 | 145 | 12.00 | 305 |
| 1000123 | 10.00 | 254 | 24.50 | 622 | 65.50 | 1664 | 7.50 | 191 | 14.50 | 368 |



VERNATONE — VERTICAL

VERNATONETM - OVAL HORIZONTAL MOUNT -PORT & STARBOARD

| | Α | | 1 | В | | 2 | D | | E | , | F | 7 |
|----------------|------|-----|-------|-----|-------|------|--------|-----|-------|-----|--------|-------|
| | I/C |) | HGT | | LGTH | | I/O LG | TH | WID | тн | I/O OI | FFSET |
| PART# | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM | INCH | MM |
| 1000162 (PORT) | 6.00 | 152 | 9.00 | 229 | 42.50 | 1080 | 5.00 | 127 | 15.12 | 384 | 4.25 | 108 |
| 1000163 (STBD) | 6.00 | 152 | 9.00 | 229 | 42.50 | 1080 | 5.00 | 127 | 15.12 | 384 | 4.25 | 108 |
| 1000149 (PORT) | 6.00 | 152 | 12.00 | 305 | 52.50 | 1334 | 5.00 | 127 | 19.00 | 483 | 6.31 | 160 |
| 1000150 (STBD) | 6.00 | 152 | 12.00 | 305 | 52.50 | 1334 | 5.00 | 127 | 19.00 | 483 | 6.31 | 160 |
| 1000140 (PORT) | 8.00 | 203 | 12.00 | 305 | 54.50 | 1384 | 5.32 | 135 | 19.00 | 483 | 6.31 | 160 |
| 1000141 (STBD) | 8.00 | 203 | 12.00 | 305 | 54.50 | 1384 | 5.32 | 135 | 19.00 | 483 | 6.31 | 160 |



VERNATONE OVAL P & S

VERNATONE MK IITM - ROUND

| | | Al | 1 | 42 | | В | C | | Ľ |) | 1 | G |
|---------|-------|-----|-------|------|-------|-----|-------|------|-------|-----|--------|--------|
| | IN | LET | OU | TLET | Γ | DIA | LG | ГН | I/O L | GTH | OUTLET | OFFSET |
| PART # | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM. | INCH | MM. |
| 1400003 | 2.00 | 51 | 2.00 | 51 | 6.38 | 162 | 16.00 | 406 | 2.50 | 64 | 1.85 | 47 |
| 1400002 | 2.38 | 60 | 2.38 | 60 | 6.38 | 162 | 16.00 | 406 | 3.00 | 76 | 1.66 | 42 |
| 1400032 | 2.50 | 64 | 2.50 | 64 | 6.38 | 162 | 18.00 | 457 | 3.00 | 76 | 1.60 | 41 |
| 1400015 | 3.00 | 76 | 3.00 | 76 | 8.38 | 213 | 19.00 | 483 | 3.00 | 76 | 2.38 | 60 |
| 1400016 | 3.50 | 89 | 3.50 | 89 | 8.38 | 213 | 23.00 | 584 | 4.00 | 102 | 2.13 | 52 |
| 1400017 | 4.00 | 102 | 4.00 | 102 | 10.04 | 255 | 25.38 | 645 | 4.00 | 102 | 2.66 | 68 |
| 1400018 | 4.50 | 114 | 4.50 | 114 | 10.04 | 255 | 28.50 | 724 | 4.50 | 114 | 2.41 | 61 |
| 1400006 | 5.00 | 127 | 5.00 | 127 | 10.04 | 255 | 31.50 | 800 | 5.00 | 127 | 2.16 | 55 |
| 1400040 | 5.00 | 127 | 6.00 | 152 | 12.50 | 318 | 40.00 | 1016 | 5.00 | 127 | 2.84 | 72 |
| 1400007 | 6.00 | 152 | 6.00 | 152 | 12.50 | 318 | 38.00 | 965 | 6.00 | 152 | 2.84 | 72 |
| 1400039 | 6.00 | 152 | 8.00 | 203 | 16.25 | 413 | 50.50 | 1283 | 8.00 | 203 | 3.72 | 94 |
| 1400008 | 8.00 | 203 | 8.00 | 203 | 16.25 | 413 | 50.50 | 1283 | 8.00 | 203 | 3.72 | 94 |
| 1400030 | 8.00 | 203 | 10.00 | 254 | 18.50 | 470 | 61.00 | 1549 | 10.00 | 254 | 3.85 | 98 |
| 1400009 | 10.00 | 254 | 10.00 | 254 | 18.50 | 470 | 63.00 | 1600 | 10.00 | 254 | 3.85 | 98 |
| 1400010 | 12.00 | 305 | 12.00 | 305 | 22.25 | 565 | 75.50 | 1918 | 12.00 | 305 | 4.56 | 116 |
| 1400011 | 14.00 | 356 | 14.00 | 356 | 22.25 | 565 | 87.00 | 2210 | 12.00 | 305 | 3.50 | 89 |





VERNATONE MK II (ROUND)

VERNATONE MK IITM OVAL VERTICAL MOUNT

| | Al | ст | A2 OUTI | : . F.T. | C LCT | ч | D VO L |) Стн | E | гu | F HCI | г | G OUTUFT/ |) OFFSFT |
|---------|-------|------|------------|-------------|----------|------|-----------|----------|-------|---------|----------|---------|--------------|-------------|
| DADT 4 | | | | | | | | | DICU | | | | INCLL | NANA |
| PARI # | INCH | MIM. | INCH | MM. | INCH | MM. | INCH | MM. | INCH | IVIIVI. | INCH | IVIIVI. | | IVIIVI. |
| 1400042 | 5.00 | 127 | 5.00 | 127 | 31.50 | 800 | 5.50 | 140 | 9.00 | 229 | 15.00 | 381 | 4.56 | 116 |
| 1400037 | 5.00 | 127 | 6.00 | 152 | 38.00 | 965 | 6.00 | 152 | 9.00 | 229 | 15.00 | 381 | 4.06 | 103 |
| 1400043 | 6.00 | 152 | 6.00 | 152 | 32.38 | 822 | 6.00 | 152 | 9.00 | 229 | 15.00 | 381 | 4.06 | 103 |
| 1400014 | 6.00 | 152 | 8.00 | 203 | 50.50 | 1283 | 8.00 | 203 | 12.00 | 305 | 19.00 | 483 | 4.81 | 122 |
| 1400044 | 8.00 | 203 | 8.00 | 203 | 50.50 | 1283 | 8.00 | 203 | 12.00 | 305 | 19.00 | 483 | 4.81 | 122 |
| 1400045 | 10.00 | 254 | 10.00 | 254 | 63.00 | 1600 | 10.00 | 254 | 14.50 | 368 | 24.50 | 622 | 6.85 | 174 |
| 1400046 | 12.00 | 305 | 12.00 | 305 | 75.50 | 1918 | 12.00 | 305 | 18.00 | 457 | 30.00 | 762 | 8.50 | 216 |
| 1400028 | 14.00 | 356 | 14.00 | 356 | 77.00 | 1956 | 12.00 | 305 | 18.00 | 457 | 30.00 | 762 | 7.50 | 191 |





С

VERNATONE MK II OVAL

VERNATONETM - SUPER II ROUND Al- A2

D

D

| | INLET-O | UTLET | DI | Α | LGTH | | I/O L | GTH |
|---------|---------|-------|-------|-----|-------|------|-------|-----|
| PART # | INCH | MM. | INCH | MM. | INCH | MM | INCH | MM. |
| 1002033 | 2.50 | 64 | 6.38 | 162 | 24.50 | 622 | 2.50 | 64 |
| 1002034 | 3.00 | 76 | 8.38 | 213 | 29.50 | 749 | 3.00 | 76 |
| 1002038 | 3.50 | 89 | 8.38 | 213 | 34.00 | 864 | 3.50 | 89 |
| 1002035 | 4.00 | 102 | 10.04 | 255 | 38.00 | 965 | 4.00 | 102 |
| 1002039 | 4.50 | 114 | 10.04 | 255 | 42.00 | 1067 | 4.00 | 102 |
| 1002018 | 5.00 | 127 | 12.50 | 318 | 46.75 | 1187 | 5.12 | 130 |
| 1002026 | 6.00 | 152 | 12.50 | 318 | 48.75 | 1238 | 6.00 | 152 |
| 1002019 | 8.00 | 203 | 18.50 | 470 | 60.00 | 1524 | 6.00 | 152 |
| 1002025 | 10.00 | 254 | 22.25 | 565 | 72.00 | 1829 | 7.25 | 184 |
| 1002022 | 12.00 | 305 | 22.25 | 565 | 88.00 | 2235 | 8.50 | 216 |





VERNALIFT TM

The VERNALIFT by Centek is available in a wide variety of sizes, shapes and configurations of inlet/outlet. This muffler is becoming more widely used in all types of installations. Originally they were used only in those engine installations which were near or below the waterline. These engines were nearly always at the low end of the power output range since they were for small gensets and auxiliary power in sailboats. As a result, the available lift type mufflers were small and limited to inlet and outlet sizes of 2 1/2 inches and less. VERNALIFT changed that. As early as 1973, the VERNALIFT was installed on much larger propulsion engines which were above the waterline. The silencing characteristics were very good. It wasn't very long before the available inlet/outlet sizes were increased to accommodate diesel engines with power ratings of 1200HP. That has increased to include engines up to 2000HP and even larger. VERNALIFT may be the best answer for your installations, check with us for some of the many advantages.

The VERNALIFT designs are extremely varied. The positions and configuration of the inlets and outlets are almost limitless. Special designs are routine.

VERNALIFT designs meet the recommendations of ABYC for generator applications. They are ABS Type Approved Products and are manufactured using the same materials as used in the VERNATONE.

VERNALIFTTM - TOP IN/TOP OUT STANDARD SIZES

| | A | -1 | Α | -2 | I | 3 | C | 2 | 1 | D | E | 3 | Н | |
|----------|-------|------------|-------|------------|-------|-----|-------|-----|-------|------|--------|-------|-------|-----|
| | INI | .ET | OUT | LET | н | GT | DI | A | I/O I | LGTH | I/O OI | FFSET | BASE | DIA |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500001 | 1.50 | 38 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500002 | 1.63 | 41 | 1.63 | 41 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500003 | 1.63 | 41 | 1.63 | 41 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500007 | 1.88 | 48 | 1.88 | 48 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500008 | 2.00 | 51 | 2.00 | 51 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500009 | 2.00 | 51 | 2.00 | 51 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500010 | 2.00 | 51 | 2.00 | 51 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 12.18 | 309 |
| 1500015 | 2.50 | 64 | 2.50 | 64 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 2.50 | 64 | 12.18 | 309 |
| 1500017 | 3.00 | 76 | 3.00 | 76 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 12.18 | 309 |
| *1500063 | 3.00 | 76 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 12.00 | 305 |
| *1500064 | 3.50 | 89 | 3.50 | 89 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 12.00 | 305 |
| *1500065 | 4.00 | 102 | 4.00 | 102 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 12.00 | 305 |
| *1500068 | 5.00 | 127 | 5.00 | 127 | 16.00 | 406 | 16.17 | 411 | 5.00 | 127 | 4.00 | 102 | 17.00 | 432 |
| *1500069 | 6.00 | 152 | 6.00 | 152 | 16.00 | 406 | 16.17 | 411 | 5.00 | 127 | 4.00 | 102 | 17.00 | 432 |
| *1500131 | 8.00 | 203 | 8.00 | 203 | 22.00 | 559 | 22.00 | 559 | 8.00 | 203 | 5.00 | 127 | 23.00 | 584 |
| *1500154 | 10.00 | 254 | 10.00 | 254 | 28.00 | 711 | 28.50 | 724 | 8.00 | 203 | 7.00 | 178 | 30.00 | 762 |

*BASES ON THESE MODELS ARE SQUARE

VERNALIFT™ - TOP IN/TOP OUT NON- STOCK SIZES

| | A | \-1 | I | 4-2 | | В | (| 2 | | D | | E | J | H |
|----------|--------|------------|------|------|-------|-----|-------|-----|-------|-----------|-------|-------|-------|-------|
| | IN | LET | OU | TLET | H | GT | D | IA | I/O I | .GTH | I/O O | FFSET | BASI | E DIA |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500060 | 1.50 | 38 | 1.50 | 38 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500129 | 1.50 | 38 | 2.00 | 51 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500061 | 1.63 | 41 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500143 | 1.63 | 41 | 1.88 | 48 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500004 | 1.75 | 45 | 1.75 | 45 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500005 | 1.75 | 45 | 1.75 | 45 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500006 | 1.88 | 48 | 1.88 | 48 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500062 | 2.00 | 51 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 8.50 | 216 |
| 1500126 | 2.00 | 51 | 2.38 | 61 | 7.92 | 201 | 8.36 | 212 | 2.25 | 57 | 2.00 | 51 | 10.50 | 267 |
| 1500011 | 2.25 | 57 | 2.25 | 57 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500012 | 2.25 | 57 | 2.25 | 57 | 10.16 | 258 | 10.04 | 255 | 2.25 | 57 | 2.50 | 64 | 12.18 | 309 |
| 1500013 | 2.38 | 61 | 2.38 | 61 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 |
| 1500014 | 2.38 | 61 | 2.38 | 61 | 10.16 | 258 | 10.04 | 255 | 2.38 | 61 | 2.50 | 64 | 12.18 | 309 |
| 1500138 | 2.50 | 64 | 3.00 | 76 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 12.18 | 309 |
| *1500141 | 2.50 | 64 | 2.50 | 64 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 2.75 | 70 | 12.00 | 305 |
| 1500016 | 2.88 | 73 | 2.88 | 73 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 12.18 | 309 |
| *1500150 | 3.00 | 76 | 3.50 | 89 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 12.00 | 305 |
| *1500066 | 4.50 | 114 | 4.50 | 114 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 3.00 | 76 | 12.00 | 305 |
| *1500067 | 4.50 | 114 | 4.50 | 114 | 16.00 | 406 | 16.17 | 411 | 4.00 | 102 | 4.00 | 102 | 17.00 | 432 |
| *BASES (| ON THE | SE | | | 1 | A2 | 2 | | E | - | | | | |

| 1500007 4.50 114 | 4.50 | 114 | | 10.00 | 1 4 |
|-----------------------|-------|-----|---|----------|----------------|
| *BASES ON THESE | | A | : | |) - |
| MODELS ARE SQUARE | L | | | <u>_</u> | |
| | D | | | | |
| | T | | Ľ | | |
| | | | | | |
| | 8 | | | 1 | |



VERNALIFT TI/TO

A2 OUT

VERNALIFTTM SIDE IN/TOP OUT STANDARD SIZES

| | A | l | A | 2 | 1 | В | C | - | D |) | Ε | | F | | Н | 1 |
|----------|------|-----|------|-----|-------|-----|-------|------------|-------|-----|--------|------|-------|-----|-------|-----|
| | INL | ET | OUT | LET | H | GT | D | [A | I/O L | GTH | I/O OF | FSET | INLET | HGT | BASE | DIA |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500018 | 1.50 | 38 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500071 | 1.50 | 38 | 1.50 | 38 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500019 | 1.63 | 41 | 1.63 | 41 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500020 | 1.63 | 41 | 1.63 | 41 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500073 | 1.63 | 41 | 2.00 | 51 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500123 | 1.63 | 41 | 1.63 | 41 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500024 | 1.88 | 48 | 1.88 | 48 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500074 | 1.88 | 48 | 1.88 | 48 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500076 | 2.00 | 51 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500078 | 2.00 | 51 | 1.88 | 48 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500025 | 2.00 | 51 | 2.00 | 51 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500026 | 2.00 | 51 | 2.00 | 51 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500027 | 2.00 | 51 | 2.00 | 51 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| *1500120 | 2.00 | 51 | 2.00 | 51 | 12.00 | 305 | 12.34 | 313 | 2.00 | 51 | 2.50 | 64 | 8.50 | 216 | 12.00 | 305 |
| 1500137 | 2.00 | 51 | 2.50 | 64 | 7.92 | 201 | 8.36 | 212 | 2.50 | 64 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500079 | 2.00 | 51 | 2.50 | 64 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500028 | 2.25 | 57 | 2.25 | 57 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| *1500080 | 2.25 | 57 | 2.38 | 61 | 12.00 | 305 | 12.34 | 313 | 2.38 | 61 | 2.50 | 64 | 8.34 | 212 | 12.00 | 305 |
| 1500032 | 2.50 | 64 | 2.50 | 64 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500034 | 3.00 | 76 | 3.00 | 76 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| *1500085 | 3.00 | 76 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 2.75 | 70 | 8.00 | 203 | 12.00 | 305 |
| *1500087 | 3.50 | 89 | 3.50 | 89 | 12.00 | 305 | 12.34 | 313 | 3.50 | 89 | 2.75 | 70 | 7.75 | 197 | 12.00 | 305 |
| *1500088 | 4.00 | 102 | 4.00 | 102 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 7.50 | 191 | 12.00 | 305 |
| *1500089 | 4.50 | 114 | 4.50 | 114 | 12.00 | 305 | 12.34 | 313 | 4.50 | 114 | 2.75 | 70 | 7.25 | 184 | 12.00 | 305 |
| *1500091 | 5.00 | 127 | 5.00 | 127 | 12.00 | 305 | 12.34 | 313 | 5.00 | 127 | 2.75 | 70 | 6.00 | 152 | 12.00 | 305 |
| *1500090 | 5:00 | 127 | 5.00 | 127 | 16.00 | 406 | 16.17 | 411 | 5.00 | 127 | 4.00 | 102 | 8.75 | 222 | 17.00 | 432 |
| *1500092 | 6.00 | 152 | 6.00 | 152 | 16.00 | 406 | 16.17 | 411 | 5.00 | 127 | 4.00 | 102 | 8.75 | 222 | 17.00 | 432 |
| *1500094 | 8.00 | 203 | 8.00 | 203 | 18.00 | 457 | 18.50 | 470 | 6.00 | 152 | 3.00 | 76 | 10.50 | 267 | 19.00 | 483 |

*BASES ON THESE MODELS ARE SQUARE



VERNALIFT SI/TO



VERNALIFT™ - SIDE IN/TOP OUT NON-STOCK SIZES

| | A | 1 | Α | 2 | | В | C | 2 | D |) | E | | F | | Н | 1 |
|---------|------|-----|------|-----|-------|-----|----------|-----|-------|-----|--------|------|-------|-----|-------|-----|
| | INL | ЕТ | OUT | LET | H | GT | D | IA | I/O L | GTH | I/O OF | FSET | INLET | HGT | BASE | DIA |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500142 | 1.50 | 38 | 2.00 | 51 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500072 | 1.63 | 41 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500140 | 1.63 | 41 | 1.75 | 45 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500125 | 1.75 | 45 | 1.50 | 38 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500021 | 1.75 | 45 | 1.75 | 45 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500022 | 1.75 | 45 | 1.75 | 45 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500148 | 1.75 | 45 | 2.00 | 51 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500146 | 1.88 | 48 | 1.63 | 41 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500023 | 1.88 | 48 | 1.88 | 48 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 1.50 | 38 | 3.29 | 84 | 8.50 | 216 |
| 1500075 | 1.88 | 48 | 2.00 | 51 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500077 | 2.00 | 51 | 1.63 | 41 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500121 | 2.00 | 51 | 1.88 | 48 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500055 | 2.00 | 51 | 2.50 | 64 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500132 | 2.00 | 51 | 2.50 | 64 | 12.00 | 305 | 12.34 | 313 | 2.00 | 51 | 2.50 | 64 | 8.50 | 216 | 12.00 | 305 |
| 1500147 | 2.00 | 51 | 2.25 | 57 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 2.50 | 64 | 8.50 | 216 | 12.00 | 305 |
| 1500030 | 2.38 | 61 | 2.38 | 61 | 7.92 | 201 | 8.36 | 212 | 2.38 | 61 | 2.00 | 51 | 4.68 | 119 | 10.50 | 267 |
| 1500029 | 2.25 | 57 | 2.25 | 57 | 10.16 | 258 | 10.04 | 255 | 2.25 | 58 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500031 | 2.38 | 61 | 2.38 | 61 | 10.16 | 258 | 10.04 | 255 | 2.38 | 61 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500081 | 2.38 | 61 | 2.38 | 61 | 12.00 | 305 | 12.34 | 313 | 2.50 | 64 | 2.50 | 64 | 7.25 | 184 | 12.00 | 305 |
| 1500082 | 2.38 | 61 | 2.50 | 64 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500083 | 2.50 | 64 | 2.38 | 61 | 12.00 | 305 | 12.34 | 313 | 2.50 | 64 | 2.50 | 64 | 8.25 | 210 | 12.00 | 305 |
| 1500128 | 2.50 | 64 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 2.75 | 70 | 7.25 | 184 | 12.00 | 305 |
| 1500033 | 2.88 | 73 | 2.88 | 73 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 6.19 | 157 | 12.18 | 309 |
| 1500139 | 2.88 | 73 | 3.00 | 76 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 2.50 | 64 | 6.19 | 157 | 12.18 | 309 |
| 1500084 | 3.00 | 76 | 2.88 | 73 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 2.75 | 70 | 8.00 | 203 | 12.00 | 305 |
| 1500152 | 3.00 | 76 | 3.50 | 89 | 10.16 | 258 | 10.04 | 255 | 3.50 | 89 | 2.50 | 64 | 6.50 | 165 | 12.18 | 309 |
| 1500086 | 3.50 | 89 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 3.50 | 89 | 2.75 | 70 | 7.75 | 197 | 12.00 | 305 |
| 1500151 | 3.50 | 89 | 5.00 | 127 | 12.00 | 305 | 12.34 | 313 | 5.00 | 127 | 2.75 | 70 | 7.75 | 197 | 12.00 | 305 |
| 1500130 | 4.00 | 102 | 3.50 | 89 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 2.75 | 70 | 7.25 | 184 | 12.00 | 305 |
| 1500149 | 4.00 | 102 | 5.00 | 127 | 16.00 | 406 | 16.17 | 411 | 5.00 | 127 | 4.00 | 102 | 8.75 | 222 | 17.00 | 432 |



VERNALIFT SI/TO



VERNALIFTTM - INLINE STOCK SIZES

| | A | 41 | A | 12 | | В | C | 1 , | Γ |) |] | F |
|---------|------|-----|------|------|-------|-----|-------|--------|-------|-----|------|-----|
| | IN | LET | OUI | ГLЕТ | LC | GTH | DI | Α | I/O L | GTH | I/O | HGT |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500035 | 1.50 | 38 | 1.50 | 38 | 10.50 | 267 | 6.36 | 162 | 2.00 | 51 | 4.88 | 124 |
| 1500036 | 1.63 | 41 | 1.63 | 41 | 10.50 | 267 | 6.36 | 162 | 2.00 | 51 | 4.88 | 124 |
| 1500037 | 1.63 | 41 | 1.63 | 41 | 14.00 | 356 | 8.36 | 212 | 2.00 | 51 | 6.18 | 157 |
| 1500038 | 1.75 | 45 | 1.75 | 45 | 10.50 | 267 | 6.36 | 162 | 2.00 | 51 | 4.68 | 119 |
| 1500040 | 1.88 | 48 | 1.88 | 48 | 10.50 | 267 | 6.36 | 162 | 2.00 | 51 | 4.88 | 124 |
| 1500041 | 1.88 | 48 | 1.88 | 48 | 14.00 | 356 | 8.36 | 212 | 2.00 | 51 | 6.18 | 157 |
| 1500042 | 2.00 | 51 | 2.00 | 51 | 10.50 | 267 | 6.36 | 162 | 2.00 | 51 | 4.88 | 124 |
| 1500043 | 2.00 | 51 | 2.00 | 51 | 14.00 | 356 | 8.36 | 212 | 2.00 | 51 | 6.18 | 157 |
| 1500044 | 2.00 | 51 | 2.00 | 51 | 17.50 | 445 | 10.04 | 255 | 2.00 | 51 | 7.52 | 191 |
| 1500051 | 3.00 | 76 | 3.00 | 76 | 17.50 | 445 | 10.04 | 255 | 3.00 | 76 | 7.52 | 191 |

VERNALIFTTM - INLINE NON-STOCK SIZES

| | I | A 1 | A | 12 | | В | C | | Ε |) | | F |
|---------|------|------------|------|------|-------|-----|-------|-----|-------|-----|-------|-----|
| | IN | LET | OU | ГLET | LC | GTH | DI | Α | I/O L | GTH | I/O | HGT |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1500155 | 1.63 | 41 | 1.63 | 41 | 17.00 | 432 | 10.04 | 255 | 2.00 | 51 | 7.52 | 191 |
| 1500039 | 1.75 | 45 | 1.75 | 45 | 14.00 | 356 | 8.36 | 212 | 2.00 | 51 | 6.18 | 157 |
| 1500095 | 2.00 | 51 | 2.50 | 64 | 17.00 | 432 | 10.04 | 255 | 2.50 | 64 | 7.52 | 191 |
| 1500059 | 2.00 | 51 | 3.00 | 76 | 17.50 | 445 | 10.04 | 255 | 3.00 | 76 | 7.52 | 191 |
| 1500045 | 2.25 | 57 | 2.25 | 57 | 14.00 | 356 | 8.36 | 212 | 2.25 | 57 | 6.18 | 157 |
| 1500046 | 2.25 | 57 | 2.25 | 57 | 17.50 | 445 | 10.04 | 255 | 2.25 | 57 | 7.52 | 191 |
| 1500047 | 2.38 | 61 | 2.38 | 61 | 14.00 | 356 | 8.36 | 212 | 2.38 | 61 | 6.18 | 157 |
| 1500048 | 2.38 | 61 | 2.38 | 61 | 17.50 | 445 | 10.04 | 255 | 2.38 | 61 | 7.52 | 191 |
| 1500049 | 2.50 | 64 | 2.50 | 64 | 17.50 | 445 | 10.04 | 255 | 2.50 | 64 | 7.52 | 191 |
| 1500050 | 2.88 | 73 | 2.88 | 73 | 17.50 | 445 | 10.04 | 255 | 3.00 | 76 | 7.52 | 191 |
| 1500096 | 3.00 | 76 | 3.00 | 76 | 20.00 | 508 | 12.34 | 313 | 3.00 | 76 | 9.19 | 233 |
| 1500119 | 3.50 | 89 | 3.50 | 89 | 17.00 | 432 | 10.04 | 255 | 3.50 | 89 | 7.52 | 191 |
| 1500098 | 4.00 | 102 | 4.00 | 102 | 22.00 | 559 | 12.34 | 313 | 4.00 | 102 | 9.19 | 233 |
| 1500099 | 4.50 | 114 | 4.50 | 114 | 22.00 | 559 | 12.34 | 313 | 5.00 | 127 | 9.19 | 233 |
| 1500100 | 5.00 | 127 | 5.00 | 127 | 22.00 | 559 | 12.34 | 313 | 5.00 | 127 | 9.19 | 233 |
| 1500101 | 6.00 | 152 | 6.00 | 152 | 28.00 | 711 | 16.17 | 411 | 6.00 | 152 | 12.50 | 317 |
| 1500102 | 8.00 | 203 | 8.00 | 203 | 32.00 | 813 | 18.50 | 470 | 6.00 | 152 | 13.75 | 349 |





VERNALIFT[™] - SIDE ANGLE IN, TOP OUT; NON-STOCK SIZES

| | A-1 | L | A | -2 | | в | C | | Ľ |) | F | | G | ł | ł |
|----------|------|-----|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------|--------|-----|
| | INLI | ET | OUT | LET | н | GT | DI | A | I/O L | GTH | INLET | HGT | ANGL | E BASE | DIA |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | DEG | INCH | MM |
| 1500103 | 1.50 | 38 | 1.50 | 38 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 3.25 | 83 | 45- | 8.50 | 216 |
| 1500104 | 1.63 | 41 | 1.63 | 41 | 7.92 | 201 | 8.36 | 212 | 2.00 | 51 | 4.43 | 113 | 45- | 10.50 | 267 |
| 1500127 | 1.75 | 45 | 1.75 | 45 | 8.00 | 203 | 8.36 | 212 | 2.00 | 51 | 4.43 | 113 | 45- | 10.50 | 267 |
| 1500106 | 1.88 | 48 | 1.88 | 48 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 5.30 | 135 | 45- | 12.18 | 309 |
| 1500133 | 1.88 | 48 | 1.88 | 48 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 3.25 | 83 | 45- | 8.50 | 216 |
| 1500157 | 1.88 | 48 | 1.88 | 48 | 8.00 | 203 | 8.36 | 212 | 2.00 | 51 | 4.43 | 113 | 45- | 10.50 | 267 |
| 1500107 | 2.00 | 51 | 2.00 | 51 | 10.16 | 258 | 10.04 | 255 | 2.00 | 51 | 5.30 | 135 | 45- | 12.18 | 309 |
| 1500163 | 2.00 | 51 | 2.00 | 51 | 6.14 | 156 | 6.36 | 162 | 2.00 | 51 | 3.25 | 83 | 45- | 8.50 | 216 |
| 1500109 | 2.25 | 57 | 3.00 | 76 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 5.30 | 135 | 45- | 12.18 | 309 |
| 1500108 | 2.25 | 57 | 2.25 | 57 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 5.30 | 135 | 45- | 12.18 | 309 |
| 1500122 | 2.38 | 61 | 2.38 | 61 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 5.30 | 135 | 45- | 12.18 | 309 |
| 1500110 | 2.50 | 64 | 2.50 | 64 | 10.16 | 258 | 10.04 | 255 | 2.50 | 64 | 5.30 | 135 | 45- | 12.18 | 309 |
| *1500160 | 2.50 | 64 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 6.67 | 170 | 45- | 12.00 | 305 |
| 1500111 | 2.88 | 73 | 2.88 | 73 | 10.16 | 258 | 10.04 | 255 | 3.00 | 76 | 5.30 | 135 | 45- | 12.18 | 309 |
| *1500112 | 3.00 | 76 | 3.00 | 76 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 6.67 | 170 | 45- | 12.00 | 305 |
| *1500153 | 3.00 | 76 | 4.00 | 102 | 12.00 | 305 | 12.34 | 313 | 3.00 | 76 | 6.92 | 176 | 30- | 12.00 | 305 |
| *1500113 | 3.50 | 89 | 3.50 | 89 | 12.00 | 305 | 12.34 | 313 | 3.50 | 86 | 7.50 | 191 | 30- | 12.00 | 305 |
| *1500134 | 3.50 | 89 | 5.00 | 127 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 7.75 | 197 | 45- | 12.00 | 305 |
| *1500114 | 4.00 | 102 | 4.00 | 102 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 6.92 | 176 | 30- | 12.00 | 305 |
| *1500115 | 4.50 | 114 | 4.50 | 114 | 12.00 | 305 | 12.34 | 313 | 4.00 | 102 | 7.25 | 184 | 45- | 12.00 | 305 |
| *1500116 | 5.00 | 127 | 5.00 | 127 | 12.00 | 305 | 12.34 | 313 | 5.00 | 127 | 6.00 | 152 | 30- | 12.00 | 305 |
| *1500117 | 6.00 | 152 | 6.00 | 152 | 14.50 | 368 | 16.17 | 411 | 5.00 | 127 | 8.75 | 222 | 45- | 17.00 | 432 |
| *1500118 | 8.00 | 203 | 8.00 | 203 | 18.00 | 457 | 18.50 | 470 | 6.00 | 152 | 10.00 | 254 | 45- | 19.00 | 483 |

*BASES ON THESE MODELS ARE SQUARE



VERNALIFT S<I/TO



DUAL STAGE VERNALIFTTM - NON-STOCK SIZES

| | 9 | A | E | 3 | C | 2 | D | | E | 3 | F | | | G |
|-----------|-------|-----|-------|-----|-------|------|-------|-----|-------|-----|-------|-------|-------|------|
| | L | 0 | DI | A | но | GТ | BAS | SE | INLET | HGT | HGT T | O OUT | I/O I | LGTH |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| * 1520200 | 2.00 | 51 | 8.38 | 213 | 11.25 | 286 | 10.50 | 267 | 4.00 | 102 | 8.00 | 203 | 2.50 | 64 |
| * 1520250 | 2.50 | 64 | 8.38 | 213 | 12.50 | 318 | 10.50 | 267 | 4.25 | 108 | 9.00 | 229 | 2.50 | 64 |
| * 1520300 | 3.00 | 76 | 10.06 | 256 | 14.25 | 362 | 12.18 | 309 | 4.75 | 121 | 10.25 | 260 | 3.00 | 76 |
| * 1520350 | 3.50 | 89 | 10.06 | 256 | 15.25 | 387 | 12.18 | 309 | 5.25 | 133 | 11.00 | 280 | 3.50 | 89 |
| 1520400 | 4.00 | 102 | 12.38 | 314 | 16.25 | 413 | 12.00 | 305 | 5.00 | 127 | 11.50 | 292 | 4.00 | 102 |
| 1520500 | 5.00 | 127 | 12.38 | 314 | 19.00 | 483 | 12.00 | 305 | 5.75 | 146 | 13.75 | 349 | 5.00 | 127 |
| 1520600 | 6.00 | 152 | 16.25 | 413 | 22.50 | 572 | 17.50 | 445 | 7.00 | 178 | 16.25 | 413 | 6.00 | 152 |
| 1520800 | 8.00 | 203 | 18.50 | 470 | 29.25 | 743 | 19.50 | 495 | 9.00 | 229 | 21.00 | 534 | 8.00 | 203 |
| 1521000 | 10.00 | 254 | 22.00 | 559 | 36.00 | 915 | 24.00 | 610 | 12.00 | 305 | 26.25 | 667 | 8.00 | 203 |
| 1521200 | 12.00 | 305 | 24.63 | 626 | 41.00 | 1042 | 26.50 | 673 | 13.00 | 330 | 30.00 | 762 | 10.00 | 254 |

* BASES ON THESE MODELS ARE ROUND

OTHER SIZES AVAILABLE, CALL FOR DIMENSIONS.





DUAL STAGE LIFT

Gas/Water Separation Mufflers

Water/gas separators were developed to facilitate routing of gas and water in today's more complex vessels. Centek utilizes gravity and centrifugal force to separate exhaust gas from cooling water. The water can be discharged directly thru the hull below the waterline. Cooled exhaust gases can be routed in any pattern to transom or even up a dry stack (with special provisions). Separation mufflers are especially effective in vessels where engines are located amidships or well forward.

VERNA-SEPTM- This is a recent design of the new generation of water separation products. It is most advantageous on those propulsion engine installations where there is a problem with routing the exhaust piping through interior structures with a constant downward grade for draining. The cooling water is separated and discharged overboard and the water-free exhaust can be piped in a variety of newly available paths. The VERNA-SEP is also a highly efficient silencer when properly sized.

US Patent No. 5,746,630.

GEN-SEPTM - This water separator is used with the VERNALIFT muffler on generator sets and small auxiliary engines which many times are, but not necessarily, below the LWL. The water drain from the GENSEP can be positioned just below the water line eliminating water splash. This is especially important for night time generator operations.

COMBO-SEPTM- This newly developed product combines a VERNALIFT and highly efficient type separator into a single unit. It is particularly adaptable to mid-range generator sets which are installed near or below the LWL. The COMBOSEP is also used on above water line installations where the very best in silencing and water separation is desired.









VERNA- SEPTM

| | A | 4 | E | 3 | C | 1 - | ľ |) | F | 7 |
|---------|-------|-----|-------|-----|-------|--------|-------|-----|-------|------|
| | INI | LET | GAS | OUT | WATEF | R OUT | D | IA | НС | GΤ |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1030250 | 2.50 | 64 | 2.00 | 51 | 1.50 | 38 | 10.00 | 254 | 18.00 | 457 |
| 1030300 | 3.00 | 76 | 2.50 | 64 | 2.00 | 51 | 10.00 | 254 | 18.00 | 457 |
| 1030400 | 4.00 | 102 | 3.00 | 76 | 2.50 | 64 | 10.00 | 254 | 22.00 | 559 |
| 1030500 | 5.00 | 127 | 4.00 | 102 | 3.00 | 76 | 12.00 | 305 | 28.00 | 711 |
| 1030600 | 6.00 | 152 | 5.00 | 127 | 3.50 | 89 | 16.00 | 406 | 36.00 | 915 |
| 1030800 | 8.00 | 203 | 6.00 | 152 | 4.00 | 102 | 18.00 | 457 | 40.00 | 1016 |
| 1031000 | 10.00 | 254 | 8.00 | 203 | 5.00 | 127 | 24.00 | 610 | 52.00 | 1321 |
| 1031200 | 12.00 | 305 | 10.00 | 254 | 6.00 | 152 | 28.00 | 711 | 60.00 | 1524 |

A INLET LENGTH B GAS OUT C WATER OUT





GEN-SEPTM

| | Α | | H | 3 | С | | | D | E | 3 |
|---------|---------|-------------|------|-------|-------|-----|-------|-----|------|-----|
| I | NLET/GA | SOUT | WATE | R OUT | WIDT | Ή | LC | БТН | НС | GΤ |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1020150 | 1.50 | 38 | 1.25 | 32 | 10.50 | 267 | 15.25 | 387 | 3.50 | 89 |
| 1020162 | 1.62 | 41 | 1.25 | 32 | 10.50 | 267 | 15.25 | 387 | 3.50 | 89 |
| 1020200 | 2.00 | 51 | 1.50 | 38 | 10.50 | 267 | 15.25 | 387 | 3.50 | 89 |
| 1020250 | 2.50 | 64 | 1.50 | 38 | 12.50 | 318 | 20.00 | 508 | 4.50 | 114 |
| 1020300 | 3.00 | 76 | 1.50 | 38 | 12.50 | 318 | 20.00 | 508 | 4.50 | 114 |
| 1020350 | 3.50 | 89 | 2.00 | 51 | 20.50 | 521 | 24.00 | 610 | 7.00 | 178 |
| 1020400 | 4.00 | 102 | 2.50 | 64 | 20.50 | 521 | 24.00 | 610 | 7.00 | 178 |
| 1020450 | 4.50 | 114 | 2.50 | 64 | 26.00 | 660 | 28.00 | 711 | 7.25 | 184 |
| 1020500 | 5.00 | 127 | 3.00 | 76 | 26.00 | 660 | 28.00 | 711 | 7.25 | 184 |

E





COMBO-SEP

| | A- | ·1 | A- | -2 | A | -3 | В | | C | • | D |) |
|---------|-------|-----|-------|-----|-------|-------|-------|-----|-------|------|-------|------|
| | INL | ET | GAS | OUT | WATEF | R OUT | DI | Α | HC | T | BASE | E SQ |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1040200 | 2.00 | 51 | 1.50 | 38 | 1.25 | 32 | 10.00 | 254 | 20.00 | 508 | 10.13 | 257 |
| 1040250 | 2.50 | 64 | 2.00 | 51 | 1.50 | 38 | 10.00 | 254 | 20.00 | 508 | 10.13 | 257 |
| 1040300 | 3.00 | 76 | 2.50 | 64 | 1.50 | 38 | 10.00 | 254 | 20.00 | 508 | 10.13 | 257 |
| 1040400 | 4.00 | 102 | 3.00 | 76 | 2.50 | 64 | 12.34 | 313 | 26.00 | 660 | 12.00 | 305 |
| 1040500 | 5.00 | 127 | 4.00 | 102 | 2.50 | 64 | 14.36 | 365 | 30.00 | 762 | 15.00 | 381 |
| 1040600 | 6.00 | 152 | 5.00 | 127 | 3.00 | 76 | 16.25 | 413 | 35.00 | 889 | 17.00 | 432 |
| 1040800 | 8.00 | 203 | 6.00 | 152 | 4.00 | 102 | 18.50 | 470 | 45.00 | 1143 | 19.00 | 483 |
| 1041000 | 10.00 | 254 | 8.00 | 203 | 5.00 | 127 | 22.00 | 559 | 55.00 | 1397 | 23.00 | 584 |
| 1041200 | 12.00 | 305 | 10.00 | 254 | 6.00 | 152 | 28.50 | 724 | 64.00 | 1626 | 30.00 | 762 |







VERNATUBE TM Fiberglass Marine Wet Exhaust Tubing

VERNATUBE is filament wound with resin impregnated continuous rovings for optimum strength. Use of synergistic fillers with the newest fire retardant resins give VERNATUBE fire ratings far better than values required for "self-extinguishing" per ASTM-D 635 and UL 94V-0.

The smooth resin rich I.D. provides minimal resistance to water and gas flow while the precise O.D. facilitates easy use of rubber exhaust hose connections. VERNATUBE can be installed with either gasoline or diesel wet marine exhaust systems.

VERNATUBE sizes listed carry the UL label and are listed by Underwriters Laboratories Marine Department under "Exhaust Equipment, Marine Exhaust System Components

MM(33) R."

Shaftlog and Rudder Post Tubing

Centek offers the broadest line of shaftlog and rudder post tubing in the marine industry. Wall thickness and ID control make this tubing ideal for machining for the installation of bearings. Wall thickness ranges from .200" to 1.75".

VERNATUBE[™] Wet Exhaust Tubing

Installation

VERNATUBE is used in wet exhaust systems only. Connection to other components should be with flexible rubber exhaust hose with overlap of one diameter and a minimum of two stainless steel clamps at each connection.

Temperatures

VERNATUBE should be located far enough downstream from the water-injection point to ensure that it is not exposed to temperatures in excess of 250'F

Fire Resistant

VERNATUBE fire ratings exceed the values required for self-extinguishing rating per ASTM-D-365.

Warning

VERNATUBE should never be installed in an exhaust system where structural loads from the boat/ vessel might be transferred to the tube producing stress. Such stress could result in damage or failure of the tube or other components of the system.

HT Premium Vernatube

Developed for new hotter running marine engines. HT will operate continuously in the 250' to 300' (F) range. Available in all VERNATUBE sizes. Call for price and part number.

| | NOMINAL | NOMINAL WALL | WEIGHT | STANDARD |
|----------|---------|--------------|---------------|----------|
| PART NO. | O.D. | THICKNESS | (LB. PER FT.) | LENGTH |
| 1100525 | 1.00" | .104" | .03 | 5'-0" |
| *1100521 | 1.50" | .105" | 0.4 | 10'-0" |
| *1100522 | 1.62" | .108'' | 0.4 | 10'-0" |
| *1100523 | 1.75" | .122" | 0.4 | 10'-0" |
| *1100524 | 1.86" | .116" | 0.5 | 10'-0'' |
| *1100512 | 2.00" | .125" | 0.5 | 10'-0" |
| *1100510 | 2.25" | .127" | 0.5 | 10'-0" |
| *1100511 | 2.38" | .127" | 0.6 | 10'-0" |
| *1100501 | 2.50" | .128" | 0.7 | 10'-0" |
| *1100513 | 2.88" | .130" | 0.8 | 10'-0'' |
| *1100502 | 3.00" | .130" | 0.9 | 10'-0'' |
| *1100503 | 3.50" | .135" | 1.0 | 10'-0" |
| *1100504 | 4.00" | .138" | 1.3 | 10'-0'' |
| *1100505 | 4.50" | .140" | 1.5 | 10'-0" |
| *1100506 | 5.00" | .144" | 1.7 | 10'-0" |
| *1100507 | 6.00" | .148" | 2.0 | 10'-0" |
| *1100508 | 8.00" | .154" | 3.0 | 10'-0'' |
| *1100509 | 10.00" | .160" | 3.7 | 10'-0" |
| *1100515 | 12.00" | .160" | 4.6 | 10'-0" |
| *1100514 | 14.00" | .200" | 6.5 | 12'-0" |
| *1100516 | 16.00" | .200" | 8.0 | 12'-0" |
| *1100529 | 18.00" | .200" | 8.5 | 12'-0" |

Other sizes available on request. Call (800) 950-7653.



MARINE WET EXHAUST TUBING LISTED 699A

TUBING - SHAFT LOG / RUDDER POST HOUSING

| PART # | I D. | TOLERANCE | O.D. | TOLERANCE | NOMINAL WALL THICKNESS | STD. LENGTH | WEIGHT LBS. PERFOOT |
|---------|--------|-----------|-------|-----------|---------------------------|-------------|---------------------------|
| 1100252 | .425" | +.005 | .625" | ±.015 | .100" | 5' | .12 |
| 1100250 | .550" | +.005 | .750" | ±.015 | .100" | 5' | .17 |
| 1100251 | .794" | ±.005 | 1.00" | ±.015 | .103" | 5' | .21 |
| 1100234 | 1.29" | +.010005 | 1.50" | ±.030 | .105" | 10' | .33 |
| 1100243 | 1.29" | +.010005 | 1.63" | ±.030 | .170'' | 10' | .56 |
| 1100276 | 1.29" | +.010005 | 1.75" | ±.030 | .230" | 10' | 1.10 |
| 1100204 | 1.50" | +.010005 | 2.00" | ±.030 | .250" | 10' | .99 |
| 1100221 | 1.50" | +.010005 | 2.25" | ±.030 | .375" | 10' | 1.27 |
| 1100237 | 1.523" | +.010005 | 1.75" | ±.030 | .113" | 10' | .42 |
| 1100240 | 1.64" | +.010005 | 2.00" | ±.030 | .180" | 10' | .74 |
| 1100236 | 1.64" | +.010005 | 2.38" | ±.030 | .370" | 10' | 1.68 |
| 1100262 | 1.75" | +.010005 | 2.00" | ±.030 | .125" | 10' | .50 |
| 1100209 | 1.75" | +.010005 | 2.25" | ±.030 | .250" | 10' | 1.13 |
| 1100293 | 1.75" | +.010005 | 2.50" | ±.030 | .375" | 10' | 2.00 |
| 1100214 | 1.75" | +.010005 | 2.75" | ±.030 | .500" | 10' | 2 54 |
| 1100218 | 1.875" | +.010005 | 2.38" | ±.030 | .252" | 10' | 1.20 |
| 1100249 | 1.875" | +.010005 | 2.50" | ±.030 | .313" | 10' | 1.53 |
| 1100208 | 1.875" | +.010005 | 2.63" | ±.030 | .378" | 10' | 1.91 |
| 1100206 | 1.875" | +.010005 | 2.75" | ±.030 | .438" | 10' | 2.29 |
| 1100231 | 1.875" | +.010005 | 2.88" | ±.030 | .503" | 10' | 2.70 |
| 1100217 | 2.00" | +.010005 | 2.25" | ±.030 | .125" | 10' | .60 |
| 1100201 | 2.00" | +.010005 | 2.38" | ±.030 | .190" | 10' | .93 |
| 1100203 | 2.00" | +.010005 | 2.50" | ±.030 | .250" | 10' | 1.27 |
| 1100213 | 2.00" | +.010005 | 2.63" | ±.030 | .315" | 10' | 1.63 |
| 1100207 | 2.00" | +.010005 | 3.00" | ±.030 | .500" | 10' | 2 83 |
| 1100220 | 2.25" | +.010005 | 2.50" | ±.030 | .125" | 10' | .67 |
| 1100222 | 2.25" | +.010005 | 3.00" | ±.030 | .375'' | 10' | 2.23 |
| 1100277 | 2.25" | +.010005 | 3.25" | ±.030 | .500" | 10' | 3.50 |
| 1100202 | 2.375" | +.010005 | 2.63" | ±.030 | .128" | 10' | .71 |

WEIGHT TOLERANCE NOMINAL WALL STD. LENGTH PART # TOLERANCE O.D. ID. LBS. PERFOOT THICKNESS 1100245 2.375" +.010 - .005 3.00" $\pm .030$.313" 10'1.90 +.010 - .005 3.38" $\pm .030$.500" 10' 3.25 1100205 2.375" .250" 1100216 2.50" +.010 - .005 3.00" $\pm .030$ 10' 1.56+.010 - .005 2.88" ±.030 .125" 10' .78 1100225 2.625" 2.625" +.010 - .005 3.00" $\pm .030$.188" 10' 1.19 1100224 1100228 +.010 - .005 3.38" ±.030 .375" 10' 2.36 2.625" .503" 10' 3 27 1100254 2.625" +.010 - .005 3.63" $\pm .030$ 1100226 2.75" +.010 - .005 3.50" $\pm .030$.375" 10' 2.65 1100215 2.875" +.010 - .005 3.25" $\pm .030$.188" 10' 1.30 1100242 2.875" +.010 - .005 3.88" $\pm .030$.500" 10' 3.84 3.50" .250" 10' 1.84 1100211 3.00" +.010 - .005 $\pm .030$.375" 10' 1100289 3.00" +.010 - .005 3.75" $\pm .030$ 3.20 .500" 5 09 1100232 3.00" +.010 - .005 4.00" $\pm .030$ 10' 1100239 3.23" +.010 - .005 3.50" ±.030 .135" 10' 1.03 1100212 3.23" +.010 - .005 3.63" $\pm .030$.200" 10' 1.53 .400" 10' 3.28 +.010 - .005 4.03" ±.030 1100241 3.23" 3.23" +.010 - .005 4.38" $\pm .030$.575" 10' 4.92 1100244 5.55 3.23" +.010 - .005 4.50" $\pm .030$.635" 10' 1100230 4.00" .278" 10' 2.39 1100259 3.475" +.010 - .005 $\pm .030$.513" 10' 3.475" +.010 - .005 4.50" ±.030 4.66 1100253 10' 2.07 1100279 3.56" +.010 - .005 4.00" $\pm .030$.220" 1100235 3.735" +.010 - .005 4.12" ±.030 .193" 10' 1.71 .383" 10' 1100248 3.735" +.010 - .005 4.50" ±.030 3.56 4.74" ±.030 .503" 10' 4.82 1100247 3.735" +.010 - .005 .633" 10' 6 2 5 1100257 3.735" +.010 - .005 5.00" $\pm .030$ 1100227 4.23" +.010 - .005 5.25" $\pm .030$.510" 10' 5.47 .640" +.010 - .005 6.00" $\pm .030$ 10' 776 1100260 4.72" 1100290 4.94" +.010 - .005 6.50" $\pm .030$.780" 10' 11.10 1100229 5.704" +.010 - .005 6.00" ±.030 .148" 10'1.98

TUBING - SHAFT LOG / RUDDER POST HOUSING continued



Centek Exhaust System Fittings

Centek wet marine exhaust system fittings are made of the same fiberglass and fire retardant resins used to manufacture VERNATUBE, our UL listed tubing line. The fittings, couplings and elbows are light weight, strong, non corroding and durable.

Centek fittings are easy to install when repairing, repowering or replacing a wet exhaust system. The O.D.'s are quality manufactured to match other Centek components and are compatible with marine approved rubber exhaust hose.

45° ELBOWS STANDARD

| | Α | | В | | | |
|---------|-------|------|-------|------|--|--|
| | NOM O |).D. | LG | TH | | |
| PART # | INCH | MM | INCH | MM | | |
| 1200217 | 1.50 | 38 | 6.00 | 152 | | |
| 1200214 | 1.63 | 41 | 6.00 | 152 | | |
| 1200349 | 1.75 | 45 | 6.00 | 152 | | |
| 1200281 | 1.88 | 48 | 6.63 | 168 | | |
| 1200192 | 2.00 | 51 | 6.75 | 172 | | |
| 1200350 | 2.25 | 57 | 7.00 | 178 | | |
| 1200308 | 2.38 | 61 | 7.25 | 184 | | |
| 1200215 | 2.50 | 64 | 7.75 | 197 | | |
| 1200294 | 2.88 | 73 | 8.50 | 216 | | |
| 1200109 | 3.00 | 76 | 8.50 | 216 | | |
| 1200111 | 3.50 | 89 | 10.25 | 260 | | |
| 1200112 | 4.00 | 102 | 10.25 | 260 | | |
| 1200168 | 4.50 | 114 | 12.13 | 308 | | |
| 1200113 | 5.00 | 127 | 13.63 | 346 | | |
| 1200114 | 6.00 | 152 | 15.38 | 391 | | |
| 1200216 | 8.00 | 203 | 27.00 | 686 | | |
| 1200204 | 10.00 | 254 | 30.75 | 781 | | |
| 1200311 | 12.00 | 305 | 35.80 | 909 | | |
| 1200351 | 14.00 | 356 | 42.00 | 1067 | | |
| 1200352 | 16.00 | 406 | 48.00 | 1219 | | |



45° ELBOW

45° REDUCER ELBOWS

| | A- 1 | l I | A | -2 | E | 3 |
|---------|-------------|-----|------|--------|-------|-----|
| | INLET | | OUT | OUTLET | | ТН |
| PART # | INCH | MM | INCH | MM | INCH | MM |
| 1200420 | 3.50 | 89 | 4.00 | 102 | 9.30 | 236 |
| 1200468 | 3.00 | 76 | 4.00 | 102 | 11.80 | 300 |
| 1200450 | 3.50 | 89 | 4.50 | 114 | 11.80 | 300 |
| 1200457 | 4.00 | 102 | 5.00 | 127 | 14.13 | 359 |
| 1200378 | 5.00 | 127 | 6.00 | 152 | 18.20 | 462 |
| 1200380 | 6.00 | 152 | 8.00 | 203 | 23.25 | 591 |



45° REDUCER ELBOW

90° ELBOWS STANDARD

| | NOM | O.D. | LGTH | | |
|---------|-------|------|-------|------|--|
| PART # | INCH | MM | INCH | MM | |
| 1200202 | 1.50 | 38 | 5.13 | 130 | |
| 1200201 | 1.63 | 41 | 5.13 | 130 | |
| 1200312 | 1.75 | 45 | 5.50 | 140 | |
| 1200267 | 1.88 | 48 | 5.63 | 143 | |
| 1200200 | 2.00 | 51 | 5.75 | 146 | |
| 1200330 | 2.25 | 57 | 6.00 | 152 | |
| 1200269 | 2.38 | 61 | 6.31 | 160 | |
| 1200195 | 2.50 | 64 | 6.38 | 162 | |
| 1200295 | 2.88 | 73 | 7.38 | 188 | |
| 1200171 | 3.00 | 76 | 7.50 | 191 | |
| 1200189 | 3.50 | 89 | 9.00 | 229 | |
| 1200157 | 4.00 | 102 | 9.38 | 238 | |
| 1200190 | 4.50 | 114 | 10.88 | 276 | |
| 1200175 | 5.00 | 127 | 12.25 | 311 | |
| 1200162 | 6.00 | 152 | 14.00 | 356 | |
| 1200197 | 8.00 | 203 | 22.50 | 572 | |
| 1200327 | 10.00 | 254 | 22.00 | 559 | |
| 1200346 | 12.00 | 305 | 30.00 | 762 | |
| 1200347 | 14.00 | 356 | 35.00 | 889 | |
| 1200348 | 16.00 | 406 | 40.00 | 1016 | |



90° ELBOW

90° REDUCER ELBOWS

| | A | A-1 | | -2 | B LGTH | | |
|---------|-------|-----|------|-----|-----------|-----|--|
| | INLET | | OUT | LET | | | |
| PART # | INCH | MM | INCH | MM | INCH | MM | |
| 1200429 | 2.00 | 51 | 2.25 | 57 | 6.30 | 160 | |
| 1200409 | 2.00 | 51 | 2.38 | 61 | 6.31 | 160 | |
| 1200421 | 2.50 | 64 | 3.00 | 76 | 8.25 | 210 | |
| 1200437 | 2.00 | 51 | 2.50 | 64 | 6.37 | 162 | |
| 1200424 | 2.00 | 51 | 3.00 | 76 | 8.50 | 216 | |
| 1200329 | 3.00 | 76 | 3.50 | 89 | 9.00 | 229 | |
| 1200454 | 3.00 | 76 | 4.00 | 102 | 10.50 | 267 | |
| 1200385 | 5.00 | 127 | 6.00 | 152 | 13.95 | 354 | |



90° REDUCER ELBOW

180° RETURNS STANDARD

| | Α | L | В | | (| | |
|---------|-------|-----|-------|-----|-------|-----|--|
| | NOM | OD | WID | ТН | НС | GT | |
| PART # | INCH | MM | INCH | MM | INCH | MM | |
| 1200353 | 1.50 | 38 | 4.50 | 114 | 3.75 | 95 | |
| 1200354 | 1.63 | 41 | 4.88 | 124 | 4.00 | 102 | |
| 1200355 | 1.75 | 45 | 5.25 | 133 | 4.38 | 111 | |
| 1200356 | 1.88 | 48 | 5.63 | 143 | 4.75 | 121 | |
| 1200333 | 2.00 | 51 | 6.00 | 152 | 5.75 | 146 | |
| 1200357 | 2.25 | 57 | 6.75 | 172 | 5.63 | 143 | |
| 1200358 | 2.38 | 61 | 7.13 | 181 | 6.00 | 152 | |
| 1200359 | 2.50 | 64 | 7.50 | 191 | 6.25 | 159 | |
| 1200360 | 2.88 | 73 | 8.63 | 219 | 7.25 | 184 | |
| 1200199 | 3.00 | 76 | 8.44 | 214 | 7.50 | 191 | |
| 1200361 | 3.50 | 89 | 10.50 | 267 | 8.75 | 222 | |
| 1200334 | 4.00 | 102 | 11.50 | 292 | 9.38 | 238 | |
| 1200476 | 4.50 | 114 | 13.50 | 343 | 11.25 | 286 | |
| 1200402 | 5.00 | 127 | 15.00 | 381 | 12.50 | 318 | |
| 1200399 | 6.00 | 152 | 18.04 | 458 | 15.00 | 381 | |
| 1200370 | 8.00 | 203 | 24.00 | 610 | 20.34 | 517 | |
| 1200446 | 10.00 | 254 | 30.00 | 762 | 25.00 | 635 | |



180° RETURN

STANDARD "T" FITTINGS

| | A | -1 | A | -2 | A- | 3 | В | В | | С | |
|---------|------|------|------|-----|------|-----|-------|-----|-------|-----|--|
| | NOM | I OD | NOM | OD | NOM | OD | LG | ГН | WI | DTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM | |
| 1200405 | 2.00 | 51 | 2.00 | 51 | 2.00 | 51 | 8.00 | 203 | 5.00 | 127 | |
| 1200280 | 3.00 | 76 | 3.00 | 76 | 3.00 | 76 | 11.00 | 279 | 7.00 | 178 | |
| 1200389 | 3.00 | 76 | 3.00 | 76 | 4.00 | 102 | 14.00 | 356 | 8.00 | 203 | |
| 1200441 | 3.00 | 76 | 3.00 | 76 | 5.00 | 127 | 14.00 | 356 | 9.00 | 229 | |
| 1200373 | 4.00 | 102 | 4.00 | 102 | 4.00 | 102 | 14.00 | 356 | 9.00 | 229 | |
| 1200444 | 4.00 | 102 | 4.00 | 102 | 4.50 | 114 | 15.00 | 381 | 8.50 | 216 | |
| 1200341 | 4.00 | 102 | 4.00 | 102 | 5.00 | 127 | 15.00 | 381 | 9.00 | 229 | |
| 1200379 | 5.00 | 127 | 5.00 | 127 | 5.00 | 127 | 18.00 | 457 | 11.50 | 292 | |

EXHAUST TEE



SURGE CHAMBERS

| | 4 | A NOM OD | | В | C WIDTH | | |
|---------|-------|-------------|-------|-----|------------|-----|--|
| | NOM | | | тн | | | |
| PART # | INCH | MM | INCH | MM | INCH | MM | |
| 1200442 | 3.00 | 76 | 14.19 | 360 | 8.30 | 211 | |
| 1200387 | 3.50 | 89 | 15.75 | 400 | 9.70 | 246 | |
| 1200362 | 4.00 | 102 | 18.00 | 457 | 11.06 | 281 | |
| 1200363 | 4.50 | 114 | 19.75 | 502 | 12.28 | 312 | |
| 1200364 | 5.00 | 127 | 21.50 | 546 | 13.50 | 343 | |
| 1200365 | 6.00 | 152 | 25.00 | 635 | 15.90 | 404 | |
| 1200366 | 8.00 | 203 | 32.00 | 813 | 20.75 | 527 | |
| 1200367 | 10.00 | 254 | 39.00 | 991 | 25.56 | 649 | |



SURGE CHAMBER

REDUCER COUPLINGS

| | | A1 | | A2 | | В | |
|---------|------|-------|-------|------|-------|-----|--|
| | NC | OM OD | NO | M OD | L | GTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | |
| 1200266 | 1.63 | 41 | 2.00 | 51 | 3.00 | 76 | |
| 1200309 | 1.88 | 48 | 2.00 | 51 | 5.88 | 149 | |
| 1200277 | 2.00 | 51 | 2.50 | 64 | 4.25 | 108 | |
| 1200264 | 2.00 | 51 | 3.00 | 76 | 8.00 | 203 | |
| 1200270 | 2.50 | 64 | 3.00 | 76 | 8.50 | 216 | |
| 1200161 | 3.00 | 76 | 3.50 | 89 | 9.50 | 241 | |
| 1200170 | 3.00 | 76 | 4.00 | 102 | 10.00 | 254 | |
| 1200222 | 3.50 | 89 | 4.00 | 102 | 10.50 | 267 | |
| 1200185 | 4.00 | 102 | 4.50 | 114 | 11.50 | 292 | |
| 1200223 | 4.00 | 102 | 5.00 | 127 | 12.00 | 305 | |
| 1200227 | 4.50 | 114 | 5.00 | 127 | 12.50 | 318 | |
| 1200285 | 5.00 | 127 | 5.50 | 140 | 10.00 | 254 | |
| 1200148 | 5.00 | 127 | 6.00 | 152 | 14.00 | 356 | |
| 1200166 | 6.00 | 152 | 8.00 | 203 | 18.00 | 457 | |
| 1200259 | 8.00 | 203 | 10.00 | 254 | 22.00 | 559 | |

NON- STOCK COUPLINGS

| | A1 | | | A2 | В | |
|---------|-------|------|-------|------|-------|-------|
| | NO | M OD | NO | M OD | L | GTH – |
| PART # | INCH | MM | INCH | MM | INCH | MM |
| 1200390 | 1.50 | 38 | 1.63 | 41 | 6.00 | 152 |
| 1200410 | 1.50 | 38 | 2.00 | 51 | 6.20 | 158 |
| 1200435 | 1.50 | 38 | 1.75 | 45 | 6.00 | 152 |
| 1200394 | 1.75 | 45 | 2.00 | 51 | 6.00 | 152 |
| 1200396 | 2.00 | 51 | 2.38 | 61 | 5.00 | 127 |
| 1200371 | 2.00 | 51 | 2.88 | 73 | 8.00 | 203 |
| 1200336 | 2.00 | 51 | 3.50 | 89 | 8.00 | 203 |
| 1200400 | 2.00 | 51 | 4.00 | 102 | 9.00 | 229 |
| 1200430 | 2.00 | 51 | 2.25 | 57 | 6.00 | 152 |
| 1200431 | 2.25 | 57 | 2.38 | 61 | 6.00 | 152 |
| 1200318 | 2.38 | 61 | 2.88 | 73 | 8.50 | 216 |
| 1200451 | 2.38 | 61 | 3.00 | 76 | 8.50 | 216 |
| 1200125 | 2.50 | 64 | 3.50 | 89 | 9.00 | 229 |
| 1200124 | 3.50 | 89 | 4.50 | 114 | 11.00 | 279 |
| 1200265 | 4.00 | 102 | 6.00 | 152 | 14.00 | 356 |
| 1200123 | 4.50 | 114 | 6.00 | 152 | 14.00 | 356 |
| 1200272 | 5.50 | 140 | 6.00 | 152 | 11.88 | 302 |
| 1200268 | 6.00 | 152 | 6.62 | 168 | 15.00 | 381 |
| 1200392 | 6.69 | 170 | 8.00 | 203 | 18.00 | 457 |
| 1200425 | 10.00 | 254 | 12.00 | 305 | 16.00 | 406 |





STANDARD "Y" FITTINGS

| | A | L | E | 3 | (| | Γ |) | |
|---------|------|----------|------|------|------|------|-------|-----|--|
| | NOM | 1 OD | NOM | I OD | NOM | 1 OD | LG | TH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | |
| 1200427 | 2.00 | 51 | 2.00 | 51 | 3.00 | 76 | 10.80 | 274 | |
| 1200406 | 2.00 | 51 | 2.00 | 51 | 3.50 | 89 | 16.00 | 406 | |
| 1200458 | 2.38 | 61 | 2.38 | 61 | 3.50 | 89 | 18.50 | 470 | |
| 1200321 | 2.50 | 64 | 2.50 | 64 | 3.50 | 89 | 18.50 | 470 | |
| 1200432 | 2.50 | 64 | 2.50 | 64 | 4.00 | 102 | 13.00 | 330 | |
| 1200413 | 3.00 | 76 | 3.00 | 76 | 3.00 | 76 | 14.00 | 356 | |
| 1200256 | 3.00 | 76 | 3.00 | 76 | 4.00 | 102 | 14.00 | 356 | |
| 1200293 | 3.00 | 76 | 3.00 | 76 | 3.50 | 89 | 19.00 | 483 | |
| 1200116 | 3.00 | 76 | 3.00 | 76 | 4.50 | 114 | 14.50 | 368 | |
| 1200320 | 3.00 | 76 | 3.00 | 76 | 5.00 | 127 | 14.88 | 378 | |
| 1200417 | 3.50 | 89 | 3.50 | 89 | 3.50 | 89 | 16.00 | 406 | |
| 1200415 | 3.50 | 89 | 3.50 | 89 | 4.00 | 102 | 16.00 | 406 | |
| 1200315 | 3.50 | 89 | 3.50 | 89 | 5.00 | 127 | 21.50 | 546 | |
| 1200414 | 3.50 | 89 | 3.50 | 89 | 6.00 | 152 | 20.00 | 508 | |
| 1200255 | 3.50 | 89 | 3.50 | 89 | 4.50 | 114 | 16.00 | 406 | |
| 1200119 | 4.00 | 102 | 4.00 | 102 | 6.00 | 152 | 19.13 | 486 | |
| 1200316 | 4.00 | 102 | 4.00 | 102 | 4.00 | 102 | 16.50 | 419 | |
| 1200391 | 4.00 | 102 | 4.00 | 102 | 4.50 | 114 | 18.00 | 457 | |
| 1200453 | 4.50 | 114 | 4.50 | 114 | 6.00 | 152 | 19.50 | 495 | |
| 1200120 | 5.00 | 127 | 5.00 | 127 | 5.00 | 127 | 21.50 | 546 | |
| 1200310 | 5.00 | 127 | 5.00 | 127 | 6.00 | 152 | 23.00 | 584 | |
| 1200319 | 5.00 | 127 | 5.00 | 127 | 8.00 | 203 | 28.50 | 724 | |
| 1200203 | 6.00 | 152 | 6.00 | 152 | 6.00 | 152 | 26.50 | 673 | |
| 1200322 | 6.00 | 152 | 6.00 | 152 | 8.00 | 203 | 30.00 | 762 | |





Centek Wet Marine Exhaust System Accessories

To complete the wet marine exhaust system we offer thru-hull fittings

(with & without flappers), check valves, exhaust flanges, and a scupper drain.

CHECK VALVES

| | Α | | В | | C | | D | |
|---------|------|-----|-------|-----|-------|-----|----------|-----|
| | I/O | | DIA | | LGT | H | I/O LGTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1200403 | 1.50 | 38 | 4.34 | 110 | 11.79 | 299 | 2.00 | 51 |
| 1200263 | 1.63 | 41 | 4.34 | 110 | 11.79 | 299 | 1.50 | 38 |
| 1200398 | 1.88 | 48 | 4.34 | 110 | 9.00 | 229 | 1.88 | 48 |
| 1200328 | 2.00 | 51 | 4.34 | 110 | 8.37 | 213 | 1.50 | 38 |
| 1200426 | 2.25 | 57 | 5.58 | 142 | 16.13 | 410 | 3.19 | 81 |
| 1200307 | 2.50 | 64 | 5.58 | 142 | 16.13 | 410 | 3.00 | 76 |
| 1200274 | 3.00 | 76 | 7.06 | 179 | 18.66 | 474 | 3.50 | 89 |
| 1200411 | 3.50 | 89 | 8.09 | 205 | 20.30 | 516 | 3.50 | 89 |
| 1200369 | 4.00 | 102 | 9.06 | 230 | 21.00 | 533 | 3.50 | 89 |
| 1200377 | 5.00 | 127 | 11.15 | 283 | 24.25 | 616 | 4.38 | 111 |
| 1200386 | 6.00 | 152 | 12.20 | 310 | 26.20 | 665 | 5.00 | 127 |



CHECK VALVE

THRU HULL FITTING WITH FLAPPER

| | Α | | В | | С | | D | | Έ | |
|-----------------|------|-----|------|-----|------|-----|----------|-----|----------|----|
| | I/O | | DIA | | LGTH | | T-H LGTH | | EXT LGTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1200300 - WHITE | 2.00 | 51 | 3.50 | 89 | 4.50 | 114 | 2.75 | 70 | 1.75 | 44 |
| 1200301 - BLACK | 2.00 | 51 | 3.50 | 89 | 4.50 | 114 | 2.75 | 70 | 1.75 | 44 |
| 1200298 - WHITE | 3.00 | 76 | 4.88 | 124 | 5.50 | 140 | 3.00 | 76 | 2.50 | 64 |
| 1200299 - BLACK | 3.00 | 76 | 4.88 | 124 | 5.50 | 140 | 3.00 | 76 | 2.50 | 64 |
| 1200326 - WHITE | 4.00 | 102 | 6.00 | 152 | 7.75 | 197 | 4.50 | 114 | 3.25 | 83 |
| 1200325 - BLACK | 4.00 | 102 | 6.00 | 152 | 7.75 | 197 | 4.50 | 114 | 3.25 | 83 |
| 1200342 - WHITE | 5.00 | 127 | 7.50 | 191 | 9.06 | 230 | 5.63 | 143 | 3.44 | 87 |
| 1200343 - BLACK | 5.00 | 127 | 7.50 | 191 | 9.06 | 230 | 5.63 | 143 | 3.44 | 87 |

FLAPPER REPAIR KIT

| 1200344 | 2" |
|---------|----|
| 1200313 | 3" |
| 1200340 | 4" |
| 1200345 | 5" |



FITTING WITH FLAPPER

THRU HULL FITTING WITHOUT FLAPPER

| | A | ł | E | 3 | (| 2 | Ľ |) | E | r 1 |
|-----------------|------|-----|------|-----|------|-----|----------|-----|----------|--------|
| | I/O | | DIA | | LGTH | | T-H LGTH | | EXT LGTH | |
| PART # | INCH | MM | INCH | MM | INCH | MM | INCH | MM | INCH | MM |
| 1200302 - WHITE | 2.00 | 51 | 3.50 | 89 | 3.19 | 81 | 2.75 | 70 | 0.44 | 11 |
| 1200303 - BLACK | 2.00 | 51 | 3.50 | 89 | 3.19 | 81 | 2.75 | 70 | 0.44 | 11 |
| 1200287 - WHITE | 3.00 | 76 | 4.88 | 124 | 3.63 | 92 | 3.00 | 76 | 0.63 | 16 |
| 1200288 - BLACK | 3.00 | 76 | 4.88 | 124 | 3.63 | 92 | 3.00 | 76 | 0.63 | 16 |
| 1200324 - WHITE | 4.00 | 102 | 6.00 | 152 | 5.13 | 130 | 4.50 | 114 | 0.63 | 16 |
| 1200323 - BLACK | 4.00 | 102 | 6.00 | 152 | 5.13 | 130 | 4.50 | 114 | 0.63 | 16 |
| 1200337 - WHITE | 5.00 | 127 | 7.50 | 191 | 6.38 | 162 | 5.63 | 143 | 0.75 | 19 |
| 1200338 - BLACK | 5.00 | 127 | 7.50 | 191 | 6.38 | 162 | 5.63 | 143 | 0.75 | 19 |



THRU-HULL EXHAUST FITTING WITHOUT FLAPPER

Scupper Drain Fitting

Scupper drain fittings allow water flow in one direction only. The weighted flapper door allows water to flow off the deck but closes down to stop backflow.

| Part No. | Description |
|----------|---------------------------------------|
| 1200134 | 3" Scupper Drain - White with Flapper |
| 1200252 | 3" Scupper Drain - Black with Flapper |



EXHAUST FLANGE

| | I | A |] | B | C | | |
|---------|----------|---------|----------------|----------|------------------|----|--|
| | INSIDE D | IAMETER | OUTSIDE | DIAMETER | FLANGE THICKNESS | | |
| PART # | INCH MM | | INCH | MM | INCH | MM | |
| 1200137 | 2.10 | 53 | 4.00 | 102 | .250 | 6 | |
| 1200138 | 2.60 | 66 | 4.62 | 117 | .250 | 6 | |
| 1200139 | 3.10 | 79 | 5.37 | 136 | .250 | 6 | |
| 1200140 | 3.60 | 91 | 6.12 | 155 | .250 | 6 | |
| 1200141 | 4.10 | 104 | 7.12 | 181 | .250 | 6 | |
| 1200142 | 5.10 | 130 | 8.06 | 205 | .312 | 8 | |
| 1200143 | 6.06 | 154 | 9.10 | 231 | .312 | 8 | |



EXHAUST TRIM FLANGE

Installation

FIG. 1 ENGINE INSTALLATION ABOVE THE LWL WITH INLINE MUFFLER. SEE DETAILED INSTALLATION INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.



FIG. 2 ENGINE INSTALLATION ABOVE THE LWL WITH LIFT MUFFLER. SEE DETAILED INSTALLATION INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.



FIG. 3 ENGINE INSTALLATION NEAR OR BELOW THE LWL WITH SPACE AVAILABLE BELOW THE ENGINE FOR A LIFT MUFFLER. SEE DETAILED INSTALLATION INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.



FIG. 4 ENGINE INSTALLATION NEAR OR BELOW THE LWL WITH NO OR LIMITED SPACE BELOW THE ENGINE FOR A LIFT MUFFLER. SEE DETAILED INSTALLATION INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.



FIG. 5 ENGINE/GENERATOR INSTALLATION NEAR OR BELOW THE LWL WITH A LIFT MUFFLER & THE GEN-SEP WATER SEPARATOR. SEE DETAILED INSTALLATION INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.



FIG. 6 ENGINE INSTALLATION ABOVE THE LWL WITH THE VERNA-SEP WATER SEPARATION MUFFLER. SEE DETAILED INSTRUCTIONS ACCOMPANYING THE NEW MUFFLER.

