

# Dry Sump Tanks



## Introduction: Benefits of Fabricated Tanks

STEF'S Aluminum Dry Sump Tanks represent years of design based on one on one communication with leading race teams across the country. From day one, the design guidelines have remained the same; meeting the needs of engine builders and chassis builders alike, while incorporating STEF'S exclusive and innovative deaeration and fluid containment systems. That is why Championship engine builders have come to rely on STEF's for race winning products.

STEF'S concept in design starts with application. Rather than modify existing designs in an effort to broaden the applications, our approach rely's on STEF'S unique ability to build "ONE OFF"s which gives each customer what they need for their builds. This attitude and our ability to work with individuals allows us to think "out of the box" when it comes to designs

STEF'S tanks are constructed of superior roll formed aluminum sheets that are 100% heli-arc welded. Unlike stamped, spun, or hydro-formed styles of tanks, fabricated tanks are NOT prone to metal fatigue, cracking, and/or application limitations due to inherent design or manufacturing handicaps. In addition our one piece integral construction with no nuts, bolts, washers, clamps, or "O"-rings prevents leaks or the chance of becoming loose during the race. Cleaning and inspection is easily facilitated via an oversized filler cap. All these steps provide the best quality product for your race team

All STEF'S Dry Sump Tanks are delivered thoroughly cleaned, leak tested and ready for installation—no assembly required.

## Cylindrical Tanks Assemblies



Whether it be Drag Race/Circle Track/Road Race/Marine and/or Dynamometer application, STEF'S innovations not only further enhance the efficiency advantage of cylindrical tank design, but also feature true cost effectiveness, vehicle weight savings and compactness of design. All of which is accomplished through a complete systems engineering approach.

These revolutionary track tested designs incorporate a 360° perforated 4" diameter integral vertical center baffle that forms a positive oil/air separation chamber against the outer tank wall. By contrast, traditional horizontally baffled or vaned tanks, which permit aerated oil to continue to swirl at higher r.p.m. levels is where STEF'S design first displays its superiority. This well proven concept promotes immediate downward oil flow and premeditate deaeration of return oil without scavenge line flow restrictions. Related design advantages employ an integral top vented breather tank, allowing only crankcase pressure to vent the breather as it's virtually impossible for oil to reach the top center reservoir tank positioned breather tube.

These tanks utilize a 4" self-locking cap and internal accessibility thus allowing thorough cleaning without removing lids, baffles, O-rings, and/or clamps. STEF'S Cylindrical Tanks also include the following features: encapsulated element type oil heater, 2 elastomer lined banding clamp mounts with through bolt fasteners, 1 x -12AN outlet, and your choice of 1,2, or 3 -10AN to -20AN male returns.



Perhaps the best feature of STEF'S Cylindrical Dry Sump Tanks—the cost. Our completes assemblies compared to traditional external vent tanks and plumbing put us above in technology, function, and form.

Part No.	Application	Oil Capacity	Diameter	Height
4105	Drag Race	1 Gal.	6"	14"
4110	Drag Race	1.5 Gal.	7"	17"
4115	Drag Race	2 Gal.	7"	19"
4116	Sprint Car	2 Gal.	6"	20"
4120	Circle Track	3 Gal.	9"	16"
4121	Circle Track	4 Gal.	9"	19"
4125*	Dynamometer/Test	4 Gal.	9"	19"
4130	Winston Cup	5 Gal.	12"	22"

\*Note: Dynamometer tanks do not include integral breathers; they are designed for externally plumbed vents or tanks (see page 23). They do include however, a sight gauge assembly and two -12 and one -16AN returns.





# Custom Dry Sump tank Assemblies

STEF'S Custom Dry Sump Tank Assemblies are designed to fit in a specific racing applications without sacrificing performance of the tank. Wether its' offshore racing or dirt racing in the Midwest, STEF'S can fabricate a tank to fit.

Like our Cylindrical Tanks, STEF'S Custom Tanks are constructed of superior controlled wall thickness metal sheetss then are 100% heli-arc welded. Unlike stamped, spun, or hydro-formed styles of tanks, fabricated tanks are NOT prone to metal fatigue, cracking, and/or application limitations due to inherent design and manufacturing handicaps. In addition our one piece integral construction with no nuts, bolts, washers, clamps, or "O"-rings prevents leaks or the chance of becoming loose during the race. Cleaning and inspection is easily facilitated via an oversized filler cap. STEF'S has taken all the steps to provide the best quality product for your race team

All STEF'S Dry Sump Tanks are delivered thoroughly cleaned, leak tested and ready for installation—no assembly required.



Part No.	Application	Oil Capacity	Dimensions
415	Troyer Asphalt Modified		17"H x 7 3/4"W x 12"L
4152	Race Works Asphalt Modified		15"H x 7"W x 13"L
4155	Olsen/Troyer D.I.R.T.		14 1/4"H x 7"W x 12"L
4156	Olson/Triangle		14 1/4"H x 7"W x 12"L
4157	Hearn/T.E.O. - D.I.R.T.		14 1/4"H x 4"W x 12"L
4160*	Tight Space/Universal		19"H x 6"W x 6"L
4170*	Marine/Off Shore		20"H x 10"W x 6"Dp
4171	"G.H.-Hydro 7 Ltr."	4 Gal.	21"H x 12"W x 6"Dp

\*NOTE: Due to the size of these tanks, a 2" diameter cap is only available.

### Additional Options

Part No.	Description
6769	Oil Heater-Dry Sump Tank / 500 Watt-Aluminum Bung
6770	Oil Heater-Dry Sump Tank / 4" Element-Aluminum
6771	Oil Heater-Dry Sump Tank / 4" Element-Steel
6772	Oil Heater-Dry Sump Tank /500 Watt-Steel Bung
6780	Install oil preheater element in Dry Sump Tank



## Tank Filler Caps & Accessories

Offered for the custom fabricator or do-it-yourselfer, these well proven components have multitudes of oil, fuel and cooling system applications.

Part No.	Description
8700	Billet Radiator/Filler Neck
8704	Air Tight Lid 4" Replacement Gasket
8705	Air Tight Lid 4" Twist-on-Self Locking
8706	Air Tight Lid Neck-4" Aluminum
8708	Air Tight Lid 2" Twist-on-Self Locking
8709	Air Tight Lid Neck 2" Aluminum



### Joe's TECH

When filling your tank for the first with the rated capacity of oil, please note the level of oil on the side of the tank. . . THE TANK WILL NOT BE FULL TO THE TOP! This is due to the design of the tank for proper deaeration of the oil system.

Don't hesitate to call. We have designed hundreds of "one off" tanks over the years and will be happy to design and build yours for your application.



## Overflow & Breather Tanks



When it comes to breather and overflow tanks, STEF'S doesn't fall short in selection! Originally designed as external dry sump tank breathers, STEF'S tanks can also be used as crankcase, transmission, and rear-end vent tanks. We also list an air/oil separator which has become an essential addition to any crankcase evacuation system. The tanks listed include a universal mounting bracket, male AN or NPT fitting, drain cock, and either a breather or 2" twist off lid.

<b>Part No.</b>	<b>Description</b>
<b>Tanks</b>	
5100	Breather/ Tank-1 Gal. W/2 K&N Style
5102	Breather/ Tank-1 1/2 Gal. W/2 K&N Style
5110	Breather/Overflow Tank-3" x 10" Long
5115	Breather/Overflow Tank-3" x 7" Long
5116	Breather/Overflow Tank-3" x 7"-12AN
5118	Breather/Overflow Tank-3" x 7"-1/2 NPT-K&N
5120	Breather/Overflow Tank-5" x 12"-Lay Down"-2 K&N Style
5121	Breather/Overflow Tank-3" x 10"-2-1/2 NPT-K&N
5122	Air/Oil Separator
5123	Air/Oil Separator -12AN IN -12AN OUT
5124	Breather Tank for Rear End and Transmission
5128	Air/Oil Separator 3/4" NPT IN 1/2" NPT OUT
<b>Breathers Only</b>	
5125	Breather K&N Style W/ Grommet
5126	Breather Chrysler Style W/ Grommet
5127	Breather Push-In W/ Grommet

## Crankcase/Oil Pan Vent System



This three part system which includes breather tank, in line check valve, and oil pan fitting, has repeatedly shown horsepower increases at various r.p.m. levels in race engines. This is particularly found in wet sump internal pump and wet sump external single stage pump applications.

Installation is simple; the weld-in -10AN fitting is attached to the oil pan in an inactive location. The check valve is then plumbed between the fitting and the breather tank to form a direct crankcase pressure vent system.

<b>Part No.</b>	<b>Description</b>
5130	Vent System for Aluminum Oil Pan
5132	Vent System for Steel Oil Pan

## Inline Check Valves



The One Way Inline Check Valves that are used in our Crank case Vent systems are available separately. They come in four sizes. These double hex aluminum in line check valves incorporate a lightly sprung valve door and oil resistant seal. Each can be disassembled for easy cleaning.

**Note: These valves are intended for vent/anti-contaminant applications only. Not for use in oil or full flow lines. Will cause a flow restriction.**

<b>Part No.</b>	<b>Description</b>
5150	Check Valve-One Way -8AN
5151	Check Valve-One Way -10AN
5152	Check Valve-One Way -12AN
5153	Check Valve-One Way -16AN