OGSI's line of Lancaster production chokes offers unparalleled features and options. The operating torque is over 90% less than typical commodity style designs. Thus, the ease with which this equipment may be automated is without equal.

No elastomers are used where they may come in direct contact with well bore fluids. Together with the use of metallic bonnet seals, neither safety or performance has been compromised.

A stainless steel micrometer style position indicator provides for precise readout of the orifice size. It remains on the choke even when mounting rotary type actuators.

With only 27 lb.-ft. of torque required for closing the stem against 15,000 psig downstream of the orifice, a small 17 pound (24 v DC) electric actuator (drawing 2.6 amps. at these conditions) is all that is required for automation. The actuator may be operated using solar power and is easily removed while the choke is in service and under pressure.

The choke is available in needle, cage, multi-stage cage, positive, and adjustable/positive style trims. Regardless of trim style, any type of actuator may be used with our standard components. Our choke and retrofit kits have been operating successfully offshore in the Gulf of Mexico since 1995. When you are as serious about flow control as we are, give us a call.

## Features

- No elastomer or elastomeric seals (o-rings) are in contact with well bore fluids. Standard seal temperature range is -40° F to 350° F.

- Our equipment requires extremely low operating torque (1.8 lb.-ft. per 1,000 psi downstream pressure). Our non-rotating stem design allows for numerous material combinations to be easily qualified to API 6A PR2 requirements.

- Converting from needle type trim to cage type trim (and vice Versa) only requires replacement of the stem, seat, and orifice indicator.

- A single bonnet and trim configuration is utilized for manual, linear pneumatic piston or diaphragm, linear hydraulic, or rotary electric actuation.

- Body cavity bleeder plug with the addition of a bonnet nut safety interlock is optional.

- Large diameter orifice indicator is stainless steel and accurate to the nearest .0001". It remains on the choke even when mounting rotary style actuators.

- Several styles of non-metallic and metallic bonnet seals are offered.

- All stem bearings are high temperature, low-friction, corrosion resistant, low thermal expansion, non-metallic materials.

- Tungsten carbide trim is standard. Needle type (linear), multi-orifice cage type (linear and equal percent), and multi-orifice multi-stage type (linear) type trims are available with a single configuration bonnet and body. Positive and adjustable/positive trim types are also available. The full length of all carbide cages and seat liners are held in compression with a separate carrier.

- Seat assemblies utilize a non-threaded design that cannot become loosened from flow induced vibration while in service which could lead to seat-to-body seal failures and body damage. Unwieldy seat wrenches are no longer required.

- The stem position locking feature is integral with the stainless steel operating handle and is infinitely adjustable.

- Forged bodies have reinforced inlet nozzle area; large body reservoirs reduce internal erosion and extend trim life.

- No salt bath nitriding of trim components (and their critical sealing surfaces). This results in improved corrosion resistance of the standard stainless steel trim components as well as superior seal performance.

- Our compact stainless operating lever, a mere 7.5" long, can close the choke against 15,000 psig pressure locked conditions and is easily removed for automation.

- The standard bonnets material is 410 stainless steel in the NACE condition. Duplex, super duplex, and nickel alloy bonnets are also available without sacrificing low operating torque.

- Bearing housing is completely sealed and provided with a stainless steel lubrication fitting.

- Lead screw is isolated from the environment to provide long life and consistently low operating torque. The special metallurgy utilized provides for an efficiency of almost 33%.

- Adjustable pointer provides for easy reading of the choke orifice size. The entire surface of the orifice indicator is always visible and includes such information as trim style details and open/close directions.

- Rugged yoke may be easily removed for the mounting of linear type pneumatic diaphragm or piston actuators. Force balanced trim configurations reduce the size of the actuator required.

- Retrofit bonnet kits and actuators are available for quite a number of commodity type choke styles and control valve assemblies. Installation of these kits is cost effective and easier than a routine trim change.

- Modulating 24 v DC electric actuation is available and may be operated using solar power. 120/240 v AC units are also available.

- Weight of the standard 24 v DC actuator is only 23 pounds, which includes the mounting kit. The actuator is NEMA 4/7 and is suitable for Div. 1 hazardous locations, class I and II, Groups C, D, E, F, and G. The unit can operate from one of four analog inputs.

- Our standard actuator, tiny when compared to conventional choke actuators, will move the choke stem to its closed position even when the choke is pressure locked at 15,000 psig.

- Switch from manual to rotary actuation by simply removing the operating lever and mounting the small electric actuator. If a problem is ever encountered, the actuator may be safely removed and the operating lever reinstalled while the choke is throttling and under pressure.

- In a wellhead application, the choke should always be the last valve to open and the first valve to close. With a user friendly choke like this one, you can save wear and tear on your gate valves and have them perform properly when you need them to. Thus, our choke can improve the safety of your well site operations.

- Utilize our needle style trim to clean up or test your well prior to connecting the flow line. Then, if conditions dictate, install our cage trim to reduce noise levels and possible flashing or cavitation when producing mixed phase flows under high pressure drops.

- The compact size of the overall package makes it ideal for use in FPSO turrets, on offshore platforms, or any other location where space is a premium. The 24 v DC actuator and small solar array are perfect for use on unmanned platforms or in remote locations.