SF-1020i

SuperFlow's Industrial Airflow Test Bench

Proven Performance
Brought to Production Testing.

*Introducing the **SuperFlow 1020i**; an OEM quality flowbench designed specifically for high-volume, end-of-line use.* This system provides rapid flow stabilization, quick set point changes and robust durability due to its rugged industrial blower and VFD control. Constructed with a steel / stainless-steel frame and industrial grade components, the ***SF-1020i*** eliminates the need for regular maintenance and provides rapid return on investment. The Modbus interface allows easy connection to your OEM controls for automated testing and data collection. With efficiency and longevity in mind, facilities around the world can reduce long-term equipment costs and increase operational efficiency with the innovative **SF-1020i** from the engineers at SuperFlow.

SuperFlow DYNAMOMETERS & FLOWBENCHES A Division of Power Test, Inc.

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SF-1020i
OVERVIEW

The 1020i is the first flowbench specifically designed for the OEM Catalyst Market

For decades, the SF-1020 flowbench has been the accepted standard for engine component development in the racing/performance market. With the ability to provide positive or negative airflow these benches are great for testing cylinder heads, intake manifolds, carburetors/throttle bodies, exhaust manifolds, and air filters. Over time these benches found their way into the catalyst development and production market.

While the original 1020 proved to be a great tool, the demanding requirements of an end of line test bench stretched the capabilities of the original 1020. The features that made it perfect for the performance market (wooden and laminate cabinet, numerous blower motors, mechanical systems for setting adjustments and the ability to run on single phase electrical power) proved to be problematic for continuous testers. Overheating, slower response time and costly blower motor replacements became part of the accepted norm, causing down time and regular operational expense. The **SF-1020i** addresses these issues and more, making it the perfect tool for the production market.

FEATURES:

Fabricated Steel Frames and Components
- *Aluminum plenum with steel top plate and steel frame*

Single Belt Connected Blower

Single 25 Hp Continuous Operation Motor

3-Phase Power; Compatible in Facilities Around the World
- *480 volt 3-phase, 60 Hz, 30 amps*
- *380 volt 3-phase, 50 Hz, 36 amps*

Industrial Control PLC
- *Performed through the Modbus TCP communications*
- *Optional HMI and Commander Software*

Industrial VFD
- *Electrical noise immunity allows concurrent operation without interference between machines*

Reduced Noise Capacity
- *78.75 dB at 800CFM*

CE Compliance

Faster and More Repeatable Range Settings

Dramatically reduced maintenance requirements

The SF-1020i is a long-term testing solution, eliminating ongoing replacement of flowbench systems

In high volume industrial testing, flowbenches may need significant maintenance every 3 months. Aside from the substantial costs of new systems, labor, and replacement parts, this also results in significant downtime. Eliminating these expenses each quarter can create a positive ROI for the new **SF-1020i** within the first year.

SF-1020i Benefits

- *Test article exchange efficiency*
- *Increased electrical power efficiency*
- *Eliminates replacement system purchases*
- *Reduction in parts & labor maintenance costs*
- *Consistency in data acquisition & power considerations*
- *Eliminates system downtime*
- *Improved test set-point stabilization time*
- *User-accessible PID control settings*
- *Improved orifice position accuracy and speed*
  - *1.5 seconds between ranges; 8 seconds total scale*
- *Adjustable while the equipment is in operation*
  - *Changes to the range, set points, flow/pressure, and orifice position can be made while a test is being run*

Talk to a SuperFlow representative today to learn how an **SF-1020i** can change your business.

Specifications

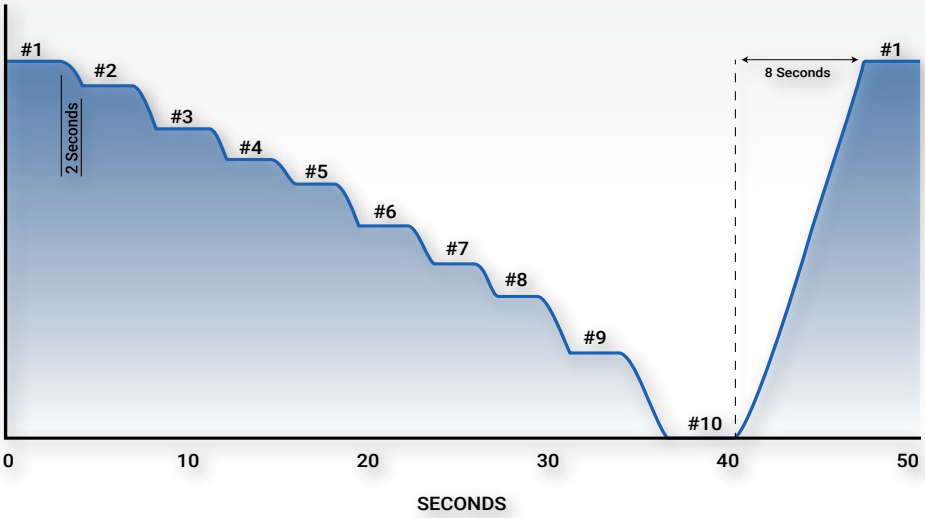
Calibration Test Pressure	*25" of water*
Range	*0-1,000 cfm*
Intake Capacity	*1000 cfm ± 5% @ 25" test pressure*
Power	*480 volt 3-phase, 60 Hz, 30 amps* *380 volt 3-phase, 50 Hz, 36 amps*
Weight	*1,350 lbs (612 kg)*
Dimensions	*50 x 44" H x 34 in. (122 x 84 x 110 cm)*
Shipping Weight	*1,685 lbs (764 kg)*
Shipping Dimensions	*50 x 55" H x 79 in. Crated* *(122 x 84 x 110 cm)*
Orifice Change Rate	*1.5 seconds*
Stabilization Rate	*7-13 seconds*

SF-1020i
DATA ACQUISITION & CONTROL

Updated Data Acquisition and HMI Interface

The **SF-1020i** features improved controllability with a customizable approach to its data acquisition and control platform. Using the integrated HMI interface or your own proprietary software this flowbench stabilizes its flow in *7-13 seconds*. Additionally, orifice position backlash correction has improved from *+/- 2%* to less than *0.5%* on average. This level of specificity ensures that you are receiving accurate data in real time.

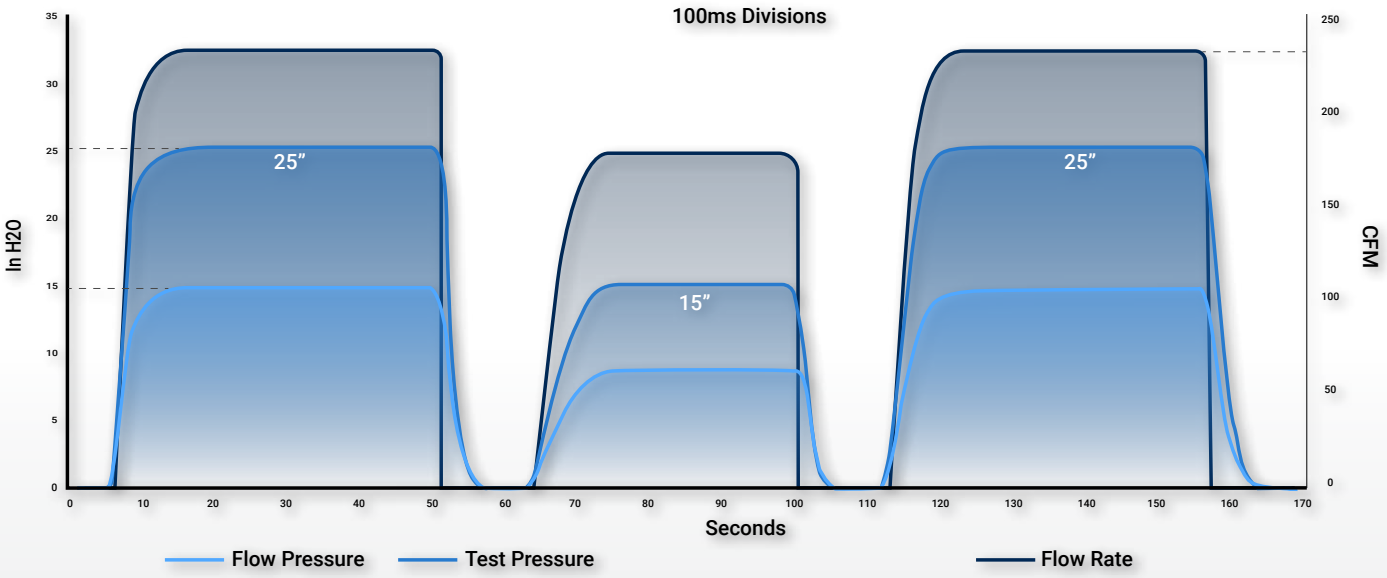
The software also allows for customization based on your needs. SuperFlow engineers optimized for standard testing, but customers have the ability to tune the system based on requirements for their unique applications. These features, combined with rapid flow stabilization, quick set point changes and robust durability make the **SF-1020i** the most efficient and user-friendly system for industrial flowbench testing.



Orifice Position Change Speed

The **SF-1020i** improves the rate of change between orifice positions from 12 to $1^{1/2}$ seconds. Set-points, positioning, and flow rates can also be adjusted while tests are being performed. These changes dramatically improve testing efficiency saving your operators time and saving you money.

Test Results



Orifice Number	Orifice Diameter	Orifice Area in²	Flow cfm at	FLOW CFM AT TEST PRESSURE										● = 1020PB ● = 1020i	
				1	2	3	4	5	6	7	8	9	10	1020PB Average	1020i Average
1	0.251	0.0495	4.44												
2	0.313	0.0769	6.83												
3	0.375	0.1104	9.7	9.7 | 9.6										9.7	9.6
4	0.563	0.2489	21.6	21.6 | 21.2										21.6	21.2
5	0.754	0.4465	38.3		38.1 | 37.8									38.1	38.1
6	0.815	0.522	44.6		44.7 | 44.7									44.7	44.7
7	1.002	0.789	67.1			66.7 | 66.0								66.7	66.0
8	1.189	1.110	94.1			94.3 | 96.3	93.6 | 93.1							93.9	94.7
9	1.502	1.772	149.5				149.8 | 151.3	149.0 | 149.5						149.4	150.4
10	1.688	2.238	188.3					188.5 | 189.9						188.5	189.9
11	1.877	2.767	232.2						231.0 | 230.1						231.0	230.1
12	2.091	3.434	287.4						287.9 | 289.5	288.4 | 287.0	289.7 | 287.0			288.7	287.8
13	2.376	4.434	370.1							369.7 | 371.0	369.2 | 371.0			369.4	371.0
14	2.875	6.492	540.5									540.5 | 538.9		540.5	538.9
15	3.125	7.670	637.5									637.5 | 640.0	637.8 | 636.8	637.6	638.4
16	3.798	9.610	797.4										797.3 | 800.1	797.3	800.1

The SF-1020i returns flow rates virtually identical to its predecessor on the same components guaranteeing consistent testing results as you integrate new equipment into your facilities.

We Make It Better

Who We Are

Power Test, Inc. is an industry leader in the design, manufacture and sale of dynamometers, and the parent company of SuperFlow. For over 40 years, Power Test has provided specialized test equipment to manufacturers, rebuild facilities and distributors in the mining, oil & gas, power generation, marine, trucking, construction, rail, military and performance markets in over 100 countries on 6 continents. Our headquarters and manufacturing operations are located in Sussex, WI with sales representatives worldwide.

How We Work

The Power Test team of innovative engineers, designers, software developers and sales consultants will SOLVE YOUR CHALLENGES with logical solutions. Our skilled machinists, fabricators, electronic technicians and assemblers build products to meet your unique needs. Our technical service experts are dedicated to working with you, anywhere and anytime. They travel the globe to ensure your equipment is running right and your staff is trained to operate it. Our exceptional product life and manufacturing expertise made us an industry-leading dynamometer manufacturer.

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