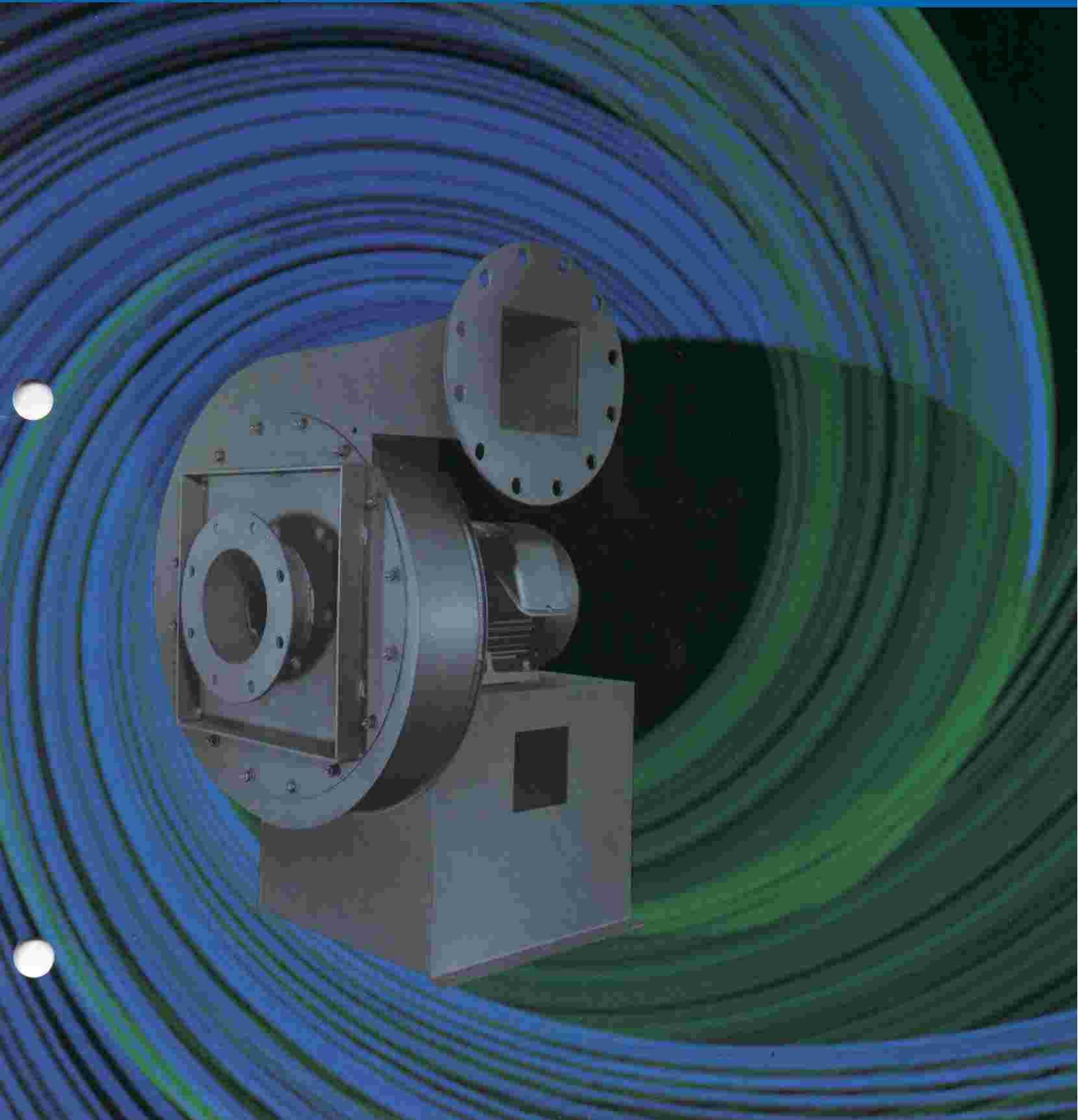


NAAYKENS'

SERIE 53

HOGE DRUK VENTILATOREN

LUCHTTECHNISCHE APPARATENBOUW B.V.



**Pressures  
to 59" WG**  
**Volumes  
to 5,000 CFM**

### Applications and Arrangements

Chicago's Design 53 single stage pressure blower is designed for combustion, air, fluid bed aeration, cooling, drying and many process system applications. It is also commonly used in pneumatic conveying systems.

An extremely wide performance range is provided by 54 wheel/housing combinations.

The Design 53 is available in four arrangements and eight discharge positions to suit most every application. In addition to direct drive, the Design 53 is also available in belt drive.



*At right: This Arrangement 8 blower will handle process air in a refinery. It is fitted with optional shaft and bearing guard and extended lubrication lines. Customer specified corrosion resistant epoxy coating was applied to all internal and external surfaces.*



*Above: The most common application of standard Arrangement 4 Pressure Blowers is to provide combustion air. This model has a flanged inlet for attachment of inlet filter, silencer or piping.*

*At right: Typical Arrangement 9H belt driven Pressure Blower is used on the clean side of a dust collector. It is shown with optional flanged inlet.*

*At far right: Arrangement 1 fans can be either direct or belt drive. This Design 53 will see service in a chemical plant and features a stainless steel airstream and phenolic coating on the exterior steel.*



### Advanced Design Features

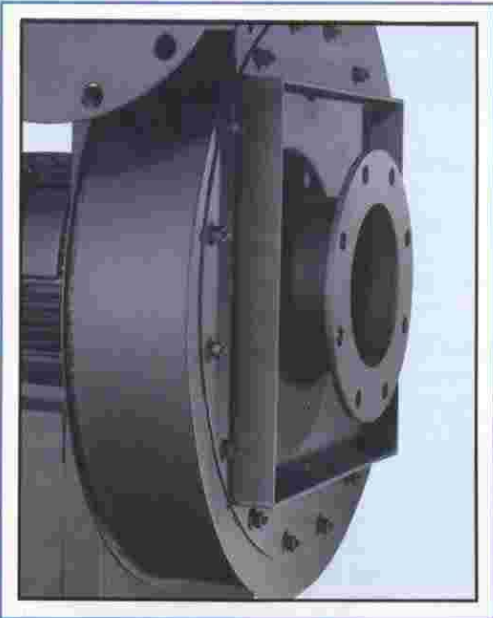
**RUGGED HOUSINGS** Housings and pedestals are fabricated of heavy gauge steel, continuously welded and rigidly braced. They will stand up to the rigors of strenuous duty, delivering smooth vibration-free performance. Removable inlet cover plate provides access to the wheel.

**SLIP-FIT INLETS** The standard slip-fit inlet facilitates field mounting of either sleeves or flexible connectors. Flanged inlets and venturi inlets are optional.

**SHAFT & BEARINGS** Oversized shafts with a critical speed at least 1.35 times maximum RPM. Bearings are heavy, industrial duty ball or roller in cast iron pillow blocks.

**LIGHTWEIGHT WHEELS** Exclusive "Constant Velocity" aluminum alloy wheels substantially reduce loads on the motor. The blades are positioned with precision fixtures and gas metal arc welded to the spun aluminum side plates. The wheels are mounted to the shaft with taperlock bushings.

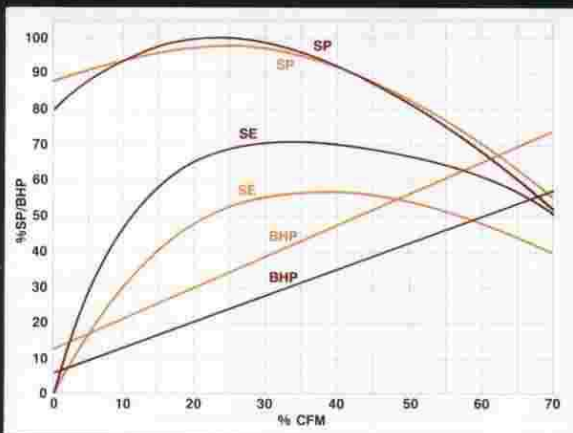
**FLANGED OUTLETS** Standard flanged outlets have ANSI Class 125/150 pipe flange bolt holes and bolt circle dimensions to provide easy connection to flanged pipe. Outlets are continuously welded to the housing.



### Increased Efficiency With New "Constant Velocity" Wheel Design

As air enters the blower the convex wheel sides and precisely shaped air chamber between the blades combine to maintain a constant velocity through the wheel. Not only is the "Constant Velocity" wheel up to 16% more efficient, it provides smooth, stable flow across the entire performance range and reduces sound levels.

### Comparison of "Constant Velocity" Pressure Blower vs. Typical Pressure Blower



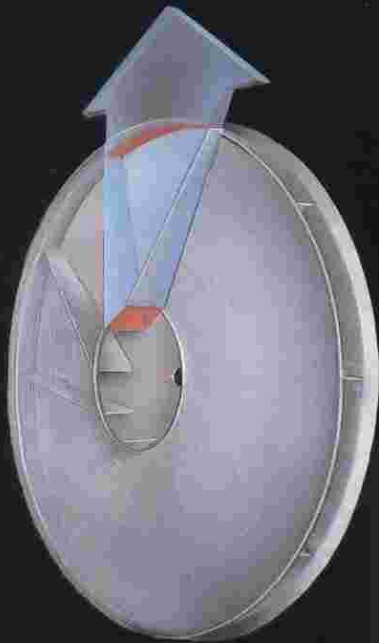
Lightweight Wheel



Slip-Fit Inlet



Flanged Outlet



### Convenience and Performance Options



**INLET FILTERS** Efficient inlet filters are available in two types—paper and reusable wire mesh. Filter consists of an element, a base welded directly on the fan inlet and a lid held in place with wing nuts. Rain hoods and filter silencers are available

**BUTTERFLY VALVE** Butterfly blast gate valves are used to fine tune performance or to vary the flow. The standard lug type shown mounts to the flanged inlet/outlet. A wafer type valve mounts between two

matching flanges. Both types are controlled manually or with various actuators.

**OUTLET SLIP TUBE** Slip tubes bolted to the outlet flange are standard schedule 40 pipe. Slip tubes with dimensions for flexible hose are available.

**FLEX-SLEEVE** A specifically designed rubber sleeve forms a flexible connection to help isolate the fan from vibration elsewhere in the system. The 6" long sleeve is backed with a tough corded rubber cover held with stainless steel clamps.

**VIBRATION PADS** Low density cork pads are designed to be mounted between the fan pedestal and the floor to reduce transmission of vibration.

**INLET GUARD** The inlet guard is fabricated of concentric rings and mounts on inlet venturi.

**VENTURI INLET** The venturi inlet provides smooth flow into the wheel for optimum performance. Inlet venturi is required on open inlet blowers to meet catalog performance.

**FLANGED INLET** The use of a flanged inlet simplifies connection to flanged piping. Flanges have ANSI Class 125/150 pipe flange bolt holes and bolt circle dimensions. The inlet flange is continuously welded to the inlet.

**GUARDS/EXTENDED FITTINGS** Both options can be furnished on Arrangements 1, 8 and 9 to enclose shaft, bearings and coupling. The extended grease fittings permit bearing lubrication without removing the guards.

**SHAFT SEALS** Shaft seals reduce leakage around the shaft where it passes through the housing. Seals should not be considered as gas tight.

**DISCHARGE ELBOWS** Elbows are needed on some downblast discharge models to allow the discharge flange to clear the pedestal. The affected models are noted on the Dimension page.

**SPECIAL COATINGS** Several special purpose paints and corrosion resistant coatings can be factory applied.

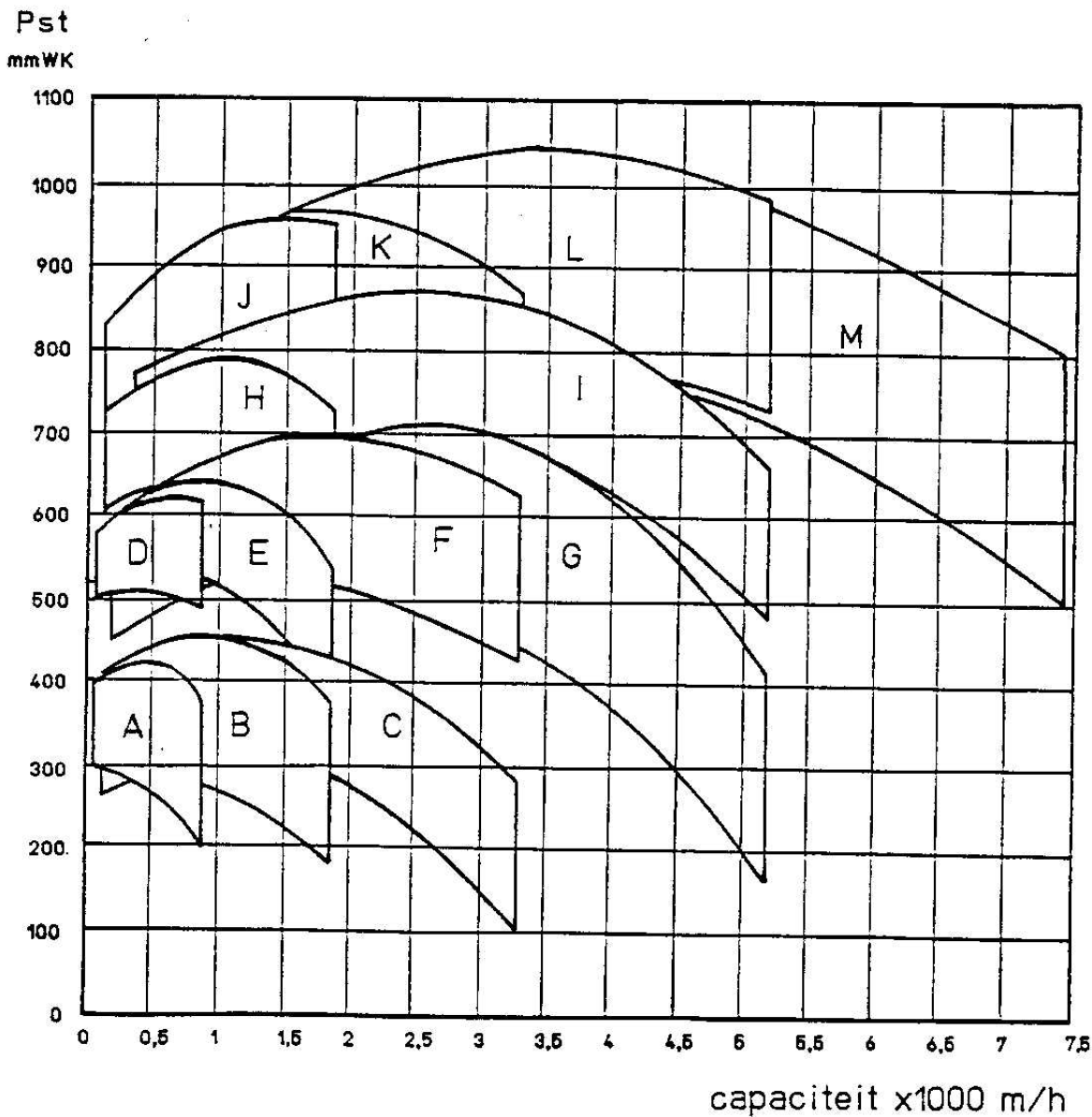




**NAAYKENS'**  
 LUCHTTECHNISCHE APPARATENBOUW B.V.

**CHICAGO**

Serie 53 Hoge-druk centrifugaal-ventilatoren  
 Uitvoering 4 Direkt Gekoppeld



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