

**hibon**

# *Bareshaft Blowers*

**S2H Two Lobe Series**



**IR** *Ingersoll Rand*  
Industrial Technologies



# S2H Series Blowers

## Range

Range of positive displacement blowers featuring two lobes for use in compression and vacuum for air or neutral gases.

Pressure up to 1 bar (14.5 psig) – Vacuum up to 540 mbar (16 "Hg)

## S2H Series flow range by model:

S2H 22 to S2H 52 (BSP), S2H 22N to S2H 53N (NPT)  
From 15 m<sup>3</sup>/h (9 cfm) to 1590 m<sup>3</sup>/h (935 cfm)

## Experience and know how

With almost a century of experience in the manufacture and the sale of rotary positive displacement blowers, Ingersoll Rand has a large range of two-lobe blowers specially designed to meet the demanding requirements of standard air or neutral gas applications: efficiency, competitiveness, and robustness.

This know-how ensures that the entire range of standard blowers benefits from the largest technological developments, allowing the user to obtain an optimum solution best suited to his needs..

## Benefits

- High mechanical and volumetric efficiency
- Reliability in operation
- Air cooled, oil free operation
- Fast and easy maintenance
- Dynamically balanced impellers
- Detachable feet allow for vertical or horizontal flow
- Clockwise or counter-clockwise rotation
- Direct drive or V-belt drive available throughout the operating range

## Application

Thousands of international installations of Ingersoll Rand blowers are proof of their reliability and strength, providing universal solutions in wide-ranging applications such as:

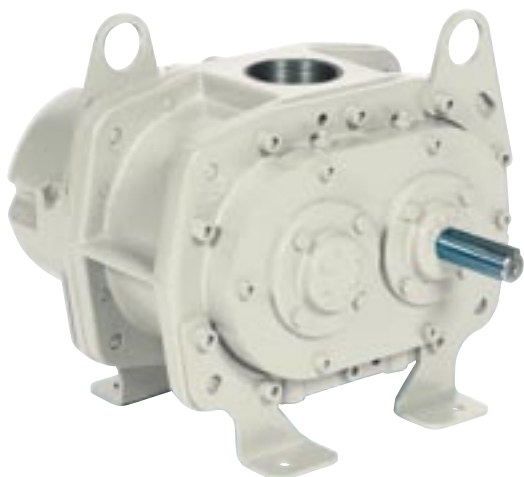
- Water treatment
- Pneumatic conveying
- Combustion Air
- Centralized Cleaning
- Fluidization
- Homogenization
- Gas Compression



# Performance

## S2H22 to S2H53

Model	Maximum Inlet Flow		Max. Differential pressure		Max. Vacuum	
	m <sup>3</sup> /h	cfm	mbar	psig	mbar	"Hg
S2H22	120	70	825	12	500	15
S2H23	255	150	480	7	470	14
S2H31	235	140	1000	15	540	16
S2H32	330	200	825	12	500	15
S2H33	615	360	480	7	480	14
S2H41	330	200	1000	15	540	16
S2H42	600	350	700	10	540	16
S2H43	930	545	480	7	470	14
S2H51	500	280	1000	15	540	16
S2H52	910	530	900	13	540	16
S2H53	1590	935	500	7	470	14



# S2H22 to S2H53

## Features

**Casing:** Close grained cast iron. Ribbed for strength.

**Head-plates:** Close grained cast iron. Machined for accurate bearing location and impeller alignment.

**Rotors:** Cast iron with pressed-in steel shafts.

**Gears:** Ground and hardened alloy steel spur gears.

**Bearings:** Anti-friction bearings, retained at gear end to allow accurate setting of gear end clearance between head-plate and impellers.

**Lubrication:** Oil splash lubricated at gear end. Grease lubricated at drive end.

**Seals:** Single lip seals for air blowers and exhausters. For gas boosting, special seals are used.

**Motor start:** Direct on-line preferred. Star Delta starting possible providing that the machine is unloaded on start-up.

## Design

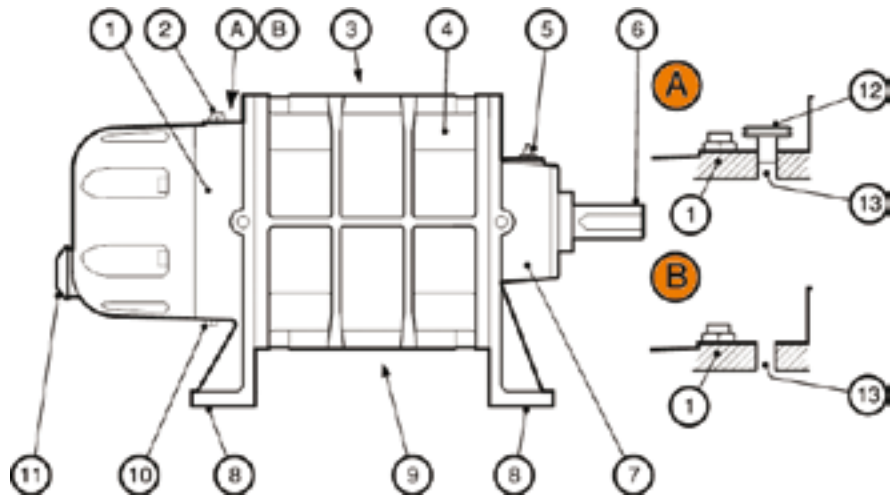
Part	European Designation	ASTM
Blower Body	EN GJL 200	A 48 gr 30 B
End covers	EN GJL 200	A 48 gr 30 B
Rotors	EN GJL 200	A 48 gr 30 B
Shafts	EN 10083-1-91/50CR V4	
Gears	CARBON STEEL 817 M 40	



# Part Descriptions

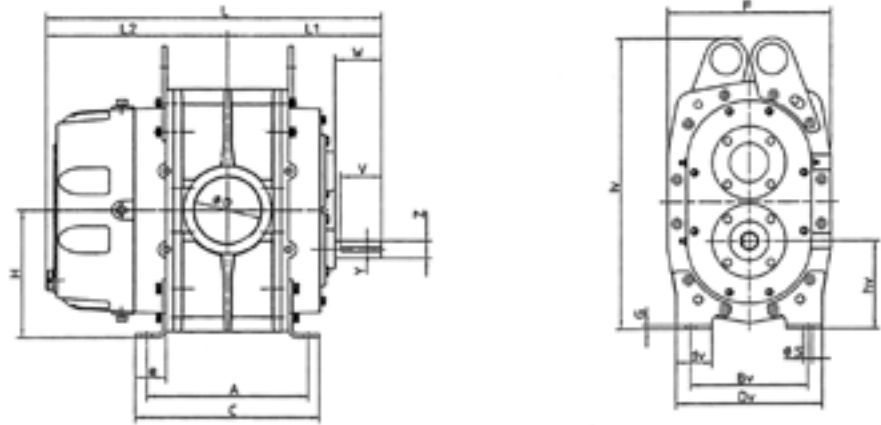
## S2H22 to S2H52 / S2H22N to S2H53N

1. Gear cover
  2. Oil filler plug
  - 3&9 Inlet/outlet
  4. Body casting
  5. Bearing greasing points
  6. Drive shaft
  7. Bearing cover
  8. Mounting feet
  10. Oil drain feet
  11. Oil level sight-glass
  12. External vent filter
  13. Gear cover vent port
- A** = Gear vent configuration  
**B** = Alternative gear cover vent configuration



# Dimensions

## S2H22 to S2H53



Blower Size	A	Bv	Bh	C	Dv	Dh	dv	dh	E	e	F	G	H
S2H22N	101	75	102	127	130	140	45	40	35	31.5	152	4	124
S2H23N	152	75	102	178	130	140	45	40	35	31.5	152	4	124
S2H31N	134	128	146	170	165	184	45	54	44.5	40.5	194	4	159
S2H32N	156	128	146	192	165	184	45	54	44.5	40.5	194	4	159
S2H33N	223	128	146	259	165	184	45	54	44.5	40.5	194	4	159
S2H41N	153	152	152	183	190	190	47	54	51	40	212	5	165
S2H42N	210	152	152	240	190	190	47	54	51	40	212	5	165
S2H43N	273	152	152	303	190	190	47	54	51	40	212	5	165
S2H51N	178	178	178	216	230	230	57	57	63.5	46	260	6	203
S2H52N	229	178	178	267	230	230	57	57	63.5	46	260	6	203
S2H53N	330	178	178	368	230	230	57	67	63.5	57	264	6	203

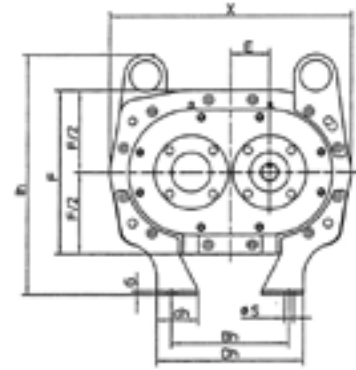
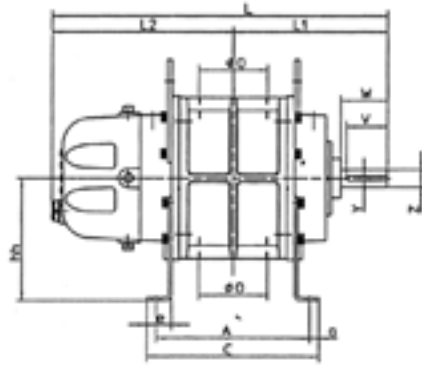
NOTE: All dimensions in millimeters unless otherwise noted.

Blower Size	A	Bv	Bh	C	Dv	Dh	dv	dh	E	e	F	G	H
S2H22	4	3	4	5	5 1/8	5 1/2	1 3/4	1 9/16	1 3/8	1 1/4	6	5/32	4 7/8
S2H23	6	3	4	7	5 1/8	5 1/2	1 3/4	1 9/16	1 3/8	1 1/4	6	5/32	4 7/8
S2H31	5 1/4	5	5 3/4	6 11/16	6 1/2	7 1/4	1 3/4	2 1/8	1 3/4	1 5/8	7 5/8	5/32	6 1/4
S2H32	6 1/8	5	5 3/4	7 9/16	6 1/2	7 1/4	1 3/4	2 1/8	1 3/4	1 5/8	7 5/8	5/32	6 1/4
S2H33	8 3/4	5	5 3/4	10 1/4	6 1/2	7 1/4	1 3/4	2 1/8	1 3/4	1 5/8	7 5/8	5/32	6 1/4
S2H41	6	6	6	7 1/4	7 1/2	7 1/2	1 7/8	2 1/8	2	1 5/8	8 3/8	3/16	6 1/2
S2H42	8 1/4	6	6	9 1/2	7 1/2	7 1/2	1 7/8	2 1/8	2	1 5/8	8 3/8	3/16	6 1/2
S2H43	10 3/4	6	6	11 15/16	7 1/2	7 1/2	1 7/8	2 1/8	2	1 5/8	8 3/8	3/16	6 1/2
S2H51	7	7	7	8 1/2	9	9	2 1/4	2 1/4	2 1/2	1 13/16	10 1/4	1/4	8
S2H52	9	7	7	10 1/2	9	9	2 1/4	2 1/4	2 1/2	1 13/16	10 1/4	1/4	8
S2H53	13	7	7	14 1/2	9	9	2 1/4	2 5/8	2 1/2	2 1/4	10 3/8	1/4	8

NOTE: All dimensions in inches unless otherwise noted. Imperial measurements are approximations based on the metric dimensions.

# Dimensions (continued)

## S2H22 to S2H53



Blower Size	hv	hh	lv	lh	L	L1	L2	O BSP (in.)	S dia.	V	W	X	Y (in.)	Z (in.)	Weight (kg)
S2H22N	89	95	280	216	260	113	147	1 1/4	10	34	38	222	3/16	5/8	19
S2H23N	89	95	280	216	311	139	172	2	10	34	38	222	3/16	5/8	21
S2H31N	114	127	335	264	314	146	168	1 1/2	10	54	60	283	3/16	5/8	34
S2H32N	114	127	335	264	336	157	179	2	10	54	60	283	3/16	3/4	38
S2H33N	114	127	335	264	402	190	212	3	10	54	60	283	3/16	3/4	48
S2H41N	114	159	379	312	380	173	207	2	12	54	61	313	1/4	7/8	50
S2H42N	114	159	379	312	437	202	235	3	12	54	61	313	1/4	7/8	60
S2H43N	114	159	379	312	501	234	267	4	12	54	61	313	1/4	7/8	73
S2H51N	139.5	178	465	368	479	196	283	2 1/2	12	54	60	387	5/16	1 1/8	95
S2H52N	139.5	178	465	368	530	222	308	4	12	54	60	387	5/16	1 1/8	102
S2H53N	140	178	465	368	649	302	347	4	13	54	60	387	5/16	1.125	121

NOTE: All dimensions in millimeters unless otherwise noted.

Blower Size	hv	hh	lv	lh	L	L1	L2	O BSP (in.)	S dia.	V	W	X	Y in.	Z in.	Weight (lb.)
S2H22	3 1/2	3 3/4	11	8 1/2	10 1/4	4 1/2	5 3/4	1 1/4	3/8	1 5/16	1 1/2	8 3/4	3/16	5/8	42
S2H23	3 1/2	3 3/4	11	8 1/2	12 1/4	5 1/2	6 3/4	2	3/8	1 5/16	1 1/2	8 3/4	3/16	5/8	46
S2H31	4 1/2	5	13 3/16	10 3/8	12 3/8	5 3/4	6 5/8	1 1/2	3/8	2 1/8	2 9/25	11 1/8	3/16	3/4	75
S2H32	4 1/2	5	13 3/16	10 3/8	13 1/4	6 3/16	7	2	3/8	2 1/8	2 9/25	11 1/8	3/16	3/4	84
S2H33	4 1/2	5	13 3/16	10 3/8	15 7/8	7 1/2	8 3/8	3	3/8	2 1/8	2 9/25	11 1/8	3/16	3/4	106
S2H41	4 1/2	6 1/4	15	12 1/4	15	6 13/16	8 1/8	2	1/2	2 1/8	2 2/5	12 5/16	1/4	7/8	110
S2H42	4 1/2	6 1/4	15	12 1/4	17 3/16	8	9 1/4	3	1/2	2 1/8	2 2/5	12 5/16	1/4	7/8	132
S2H43	4 1/2	6 1/4	15	12 1/4	19 3/4	9 1/4	10 1/2	4	1/2	2 1/8	2 2/5	12 5/16	1/4	7/8	161
S2H51	5 1/2	7	18 5/16	14 1/2	18 7/8	7 3/4	11 1/8	2 1/2	1/2	2 1/8	2 9/25	15 1/4	5/16	1 1/8	209
S2H52	5 1/2	7	18 5/16	14 1/2	20 7/8	8 3/4	12 1/8	4	1/2	2 1/8	2 9/25	15 1/4	5/16	1 1/8	225
S2H53	5 1/2	7	18 5/16	14 1/2	25 1/2	11 7/8	13 11/16	4	1/2	2 1/8	2 9/25	15 1/4	5/16	1 1/8	267

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