

AIR TECH
SYSTEMS



Technical Documentation

LTG High-pressure Conveying Fans

Series VSR-5./RU...MS

LTG High-pressure Conveying Fans Series VSR-5./RU...MS

LTG series RU...MS high-pressure conveying fans are direct-driven, single inlet centrifugal fans.

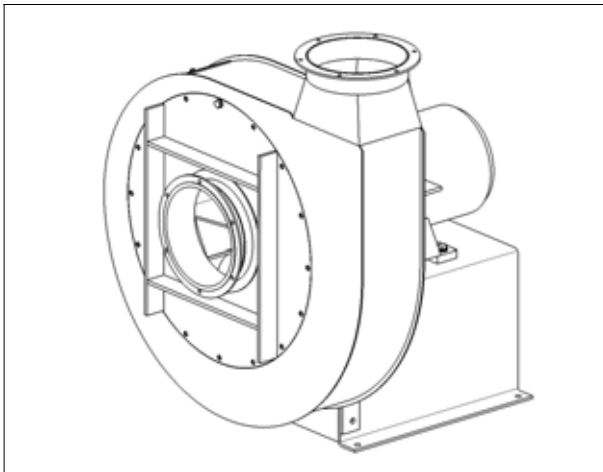
Range of Products

VSR-51/RU...MS	
for static pressure	3000 Pa
VSR-52/RU...MS	
for static pressure	4000 Pa
VSR-53/RU...MS	
for static pressure	6000 Pa
VSR-54/RU...MS	
for static pressure	8000 Pa
VSR-55/RU...MS	
for static pressure	10000 Pa
other models available on request	

Application

This series of fans is particularly suitable to pneumatically convey dust, fibres and shavings and wherever common impellers would easily get clogged, e.g. in the textile, plastics, and paper industry.

Note: This fan type may easily be remodelled to become a high-quality paper shredder without changing the fan dimensions or features.



Specification and Features

Design: reinforced version, welded sheet steel housing, non-rotating, with opening for cleaning, special 6 mm steel frame and tongue with increased wear resistance. Round suction and discharge flange connection.

Welded sheet steel impeller with open blading for direct material conveyance, special 6mm steel blades made out of special steel with increased wear resistance, bolted to cast-iron hub, dynamically balanced according to DIN ISO 1940, grade 6.3, directly mounted to the motor shaft.

Surface finish similar to RAL 5003, accessories similar to RAL 9006.

Motor

Standard three-phase motors, construction type IMB3, up to 3 kW 230/400 V, from 4 kW 400/690 V, 50 Hz, type of protection: IP55 (with PTC resistor sensor).

Advantages

- **Perfect aerodynamic properties**
- **Flat fan curve**
ensuring minimum pressure fluctuation during operation.
- **Low noise operation**
- **Compact design**
- **High operation safety**
due to solid, torsion-resistant steel housing; welded, bolted, coated.
- **High production accuracy**
ensuring that specifications are always met.
- **Great variety of models**
5 series, each with up to 6 sizes and 6 housing positions for flow rates up to 3,000 m³/h and static pressures up to 10,000 Pa.
- **Computer-based design**
LTG fans are sized with the help of computer program for each case individually based on the actual criteria. Thus ensures to select the best possible fan for each application.



LTG High-pressure Conveying Fans Series VSR-5./RU...MS

Technical Specifications for standard conditions (20 °C, $Q = 1,2 \text{ kg/m}^3$)

Size VSR-	Flow rate 1) [m ³ /h]	Total pressure rise 1) [Pa]	Power requirement [kW]	Motor-output [kW]	Motor speed [rpm]	Sound pressure level 2) [dB(A)]	Weight of fan with motor [kg]
51/RU 80 MS	360	3040	0,8	2,2	2880	74	61
100 MS	560	3040	1,2	2,2	2880	75	66
125 MS	900	3040	2	3	2890	75	87
140 MS	1100	3380	2,4	3	2890	76	87
160 MS	1450	3730	3,2	4	2905	77	99
52/RU100 MS	560	4220	1,6	3	2890	77	92
125 MS	900	4220	2,6	4	2905	78	104
140 MS	1100	4220	3,4	4	2905	79	109
160 MS	1450	4220	4,2	5,5	2925	79	124
180 MS	1830	4330	5,5	7,5	2930	80	129
53/RU80 MS	430	6380	2,6	4	2905	80	109
100 MS	670	6280	2,7	4	2905	80	109
125 MS	1060	6280	4,2	5,5	2925	81	124
140 MS	1330	6180	5,2	7,5	2930	82	138
160 MS	1450	6470	6,7	7,5	2930	82	148
180 MS	1800	6700	8	11	2940	83	178
54/RU80 MS	430	8100	2,2	7,5	2930	82	153
100 MS	670	8100	3,5	7,5	2930	82	158
125 MS	1060	8100	5,6	11	2940	83	188
140 MS	1330	8100	7	11	2940	84	198
160 MS	1740	8100	9,2	15	2940	84	217
55/RU80 MS	430	10500	3,3	7,5	2930	84	188
100 MS	670	10450	5,3	11	2940	85	213
125 MS	1060	10500	8,3	15	2940	85	227

1) for fan speed 2900 rpm.

Motor: standard three-phase motor, type IM B3 up to 3 kW 230/400V, from 4 kW 400/690 V, 50 Hz, type of protection IP 55 (with PTC resistor sensor)

2) measured at a distance of 1 m with ducts connected and elastic installation according to DIN 45635.

Accessories

Elastic installation:

Base or base frame of U-channel with rubber vibration dampers.

Flex connection to the duct:

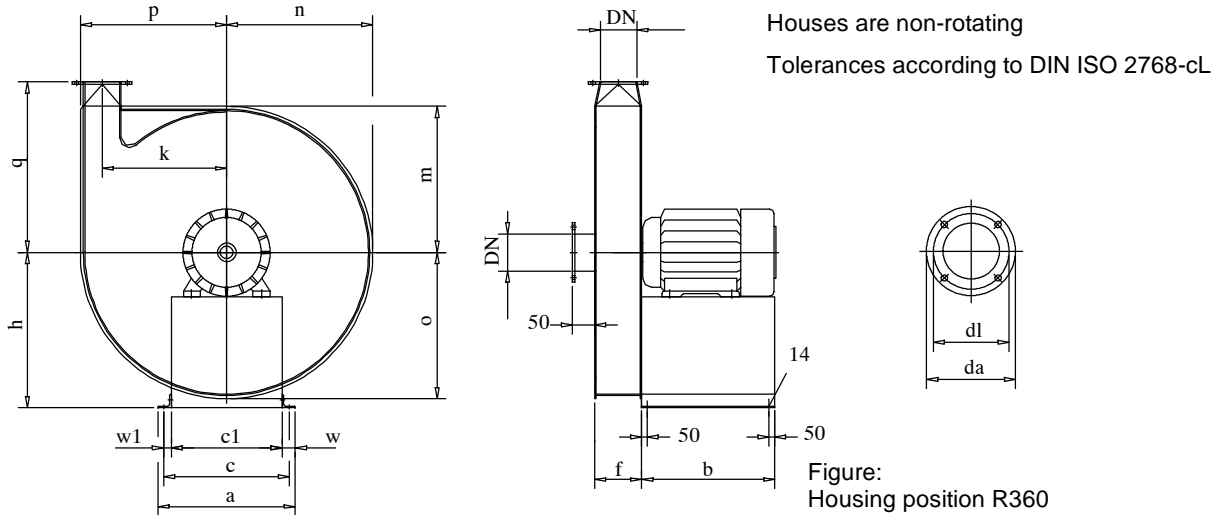
Flex suction and discharge socket with inner sleeve of sheet steel to reduce sound emission.

Flanges

The high-pressure conveying fans are equipped with flanges on both the suction and discharge side (details see dimensional sheets).

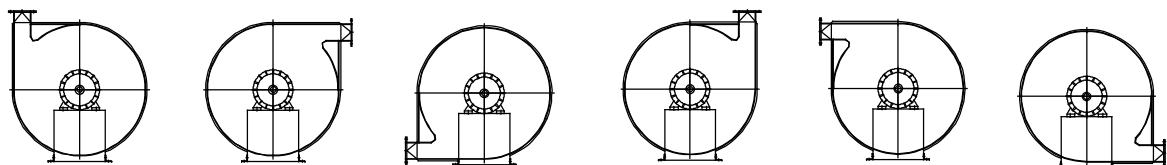
LTG High-pressure Conveying Fans Series VSR-51/RU...MS

Dimensions



Size VSR-51/RU	80 MS	100 MS	125 MS	140 MS	160 MS	250 MS
a	350	350	400	400	400	458
b	300	300	350	350	350	350
c1	250	250	300	300	300	350
c	310	310	360	360	360	410
w	50	50	50	50	50	54
w1	30	30	30	30	30	30
h	350	350	350	410	410	470
f	103	103	103	103	118	192
k	280	270	256	309	300	314,5
m	330	330	330	315	315	330
n	330	330	330	340	340	370
o	330	330	330	365	365	410
p	330	330	330	390	390	450
q	385	385	385	400	400	575
DN	80	100	125	140	160	250
dl	114	135	161	180	198	-
da	134	155	181	206	224	266
Bolts	4 x M8	4 x M8	8 x M8	8 x M8	8 x M8	-

Housing positions (View onto motor side)



Position R 360

Position R 90

Position R 270

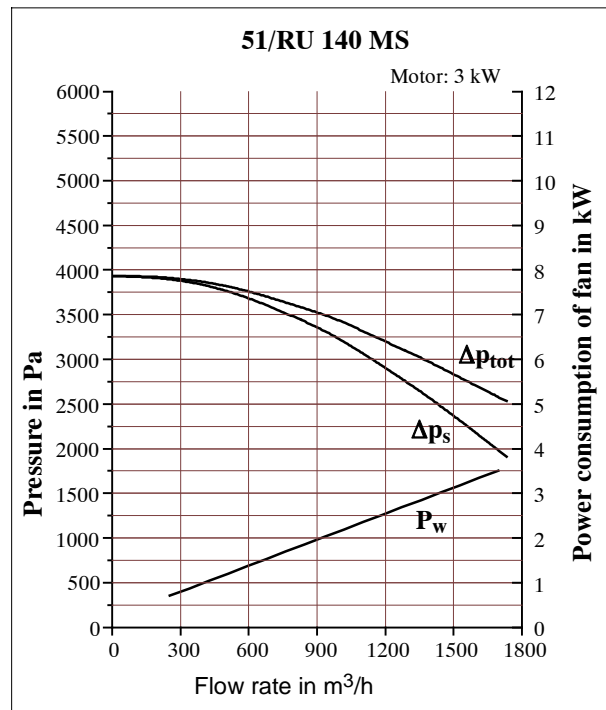
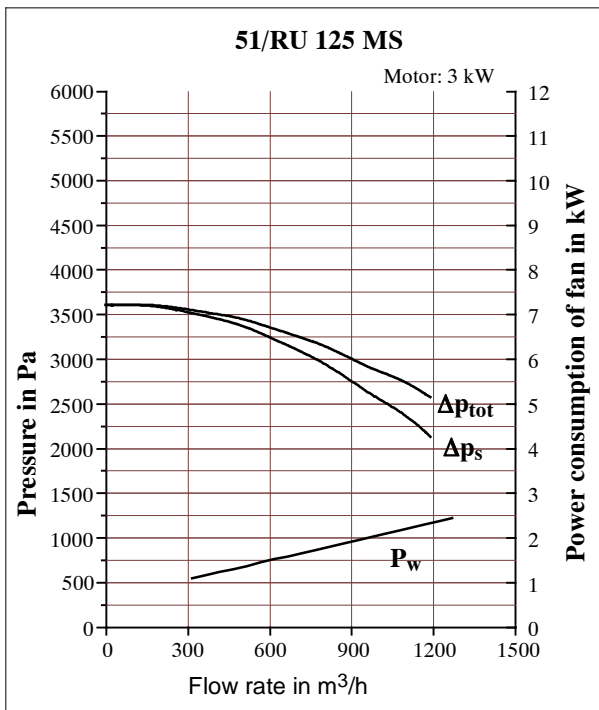
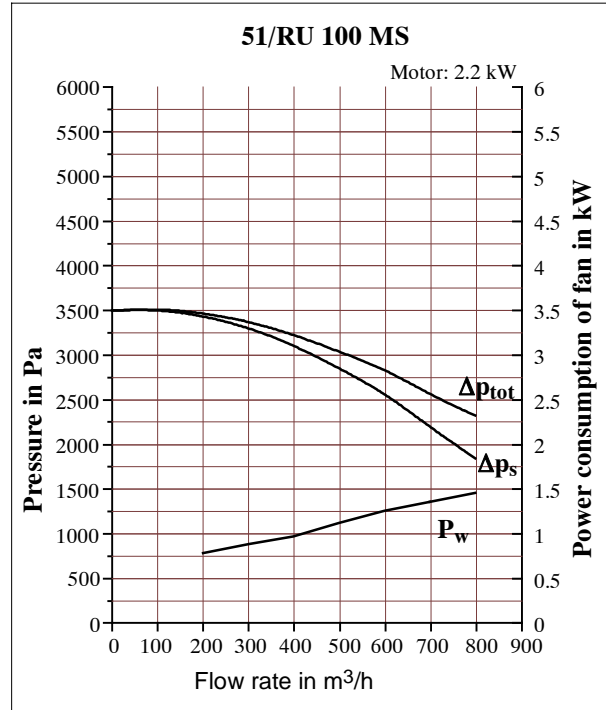
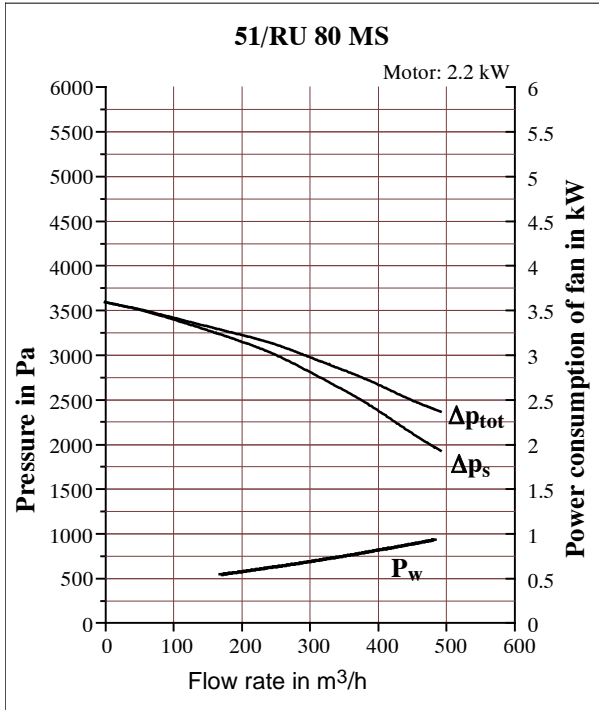
Position L 360

Position L 90

Position L 270

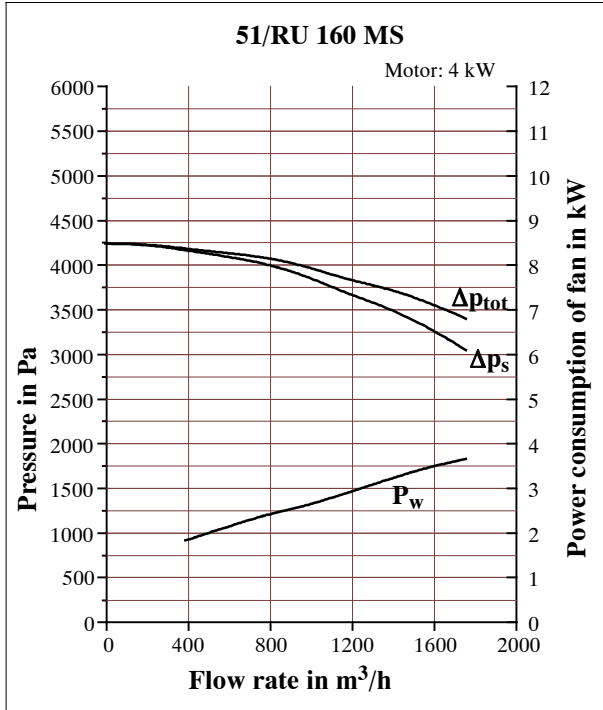
LTG High-pressure Conveying Fans Series VSR-51/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



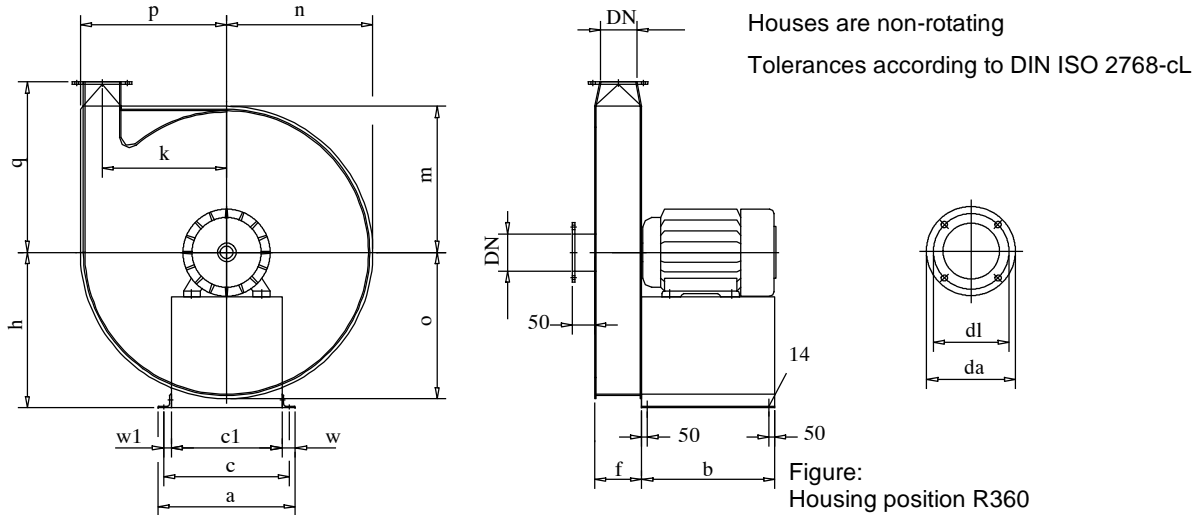
LTG High-pressure Conveying Fans Series VSR-51/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



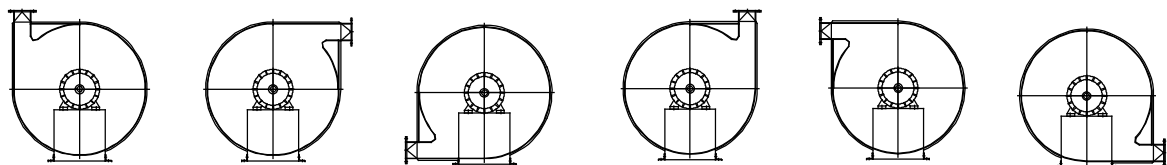
LTG High-pressure Conveying Fans Series VSR-52/RU...MS

Dimensions



Size VSR-52/RU	100 MS	125 MS	140 MS	160 MS	180 MS
a	400	400	400	450	450
b	350	350	350	400	400
c1	300	300	300	350	350
c	360	360	360	410	410
w	50	50	50	50	50
w1	30	30	30	30	30
h	400	400	450	450	450
f	104	104	104	119	134
k	304	293	350	335	327
m	365	365	360	350	350
n	365	365	380	375	375
o	365	365	410	400	400
p	365	365	430	425	425
q	420	420	430	420	420
DN	100	125	140	160	180
dl	135	161	180	198	217
da	155	181	206	224	243
Bolts	4 x M8	8 x M8	8 x M8	8 x M8	8 x M8

Housing positions (View onto motor side)



Position R 360

Position R 90

Position R 270

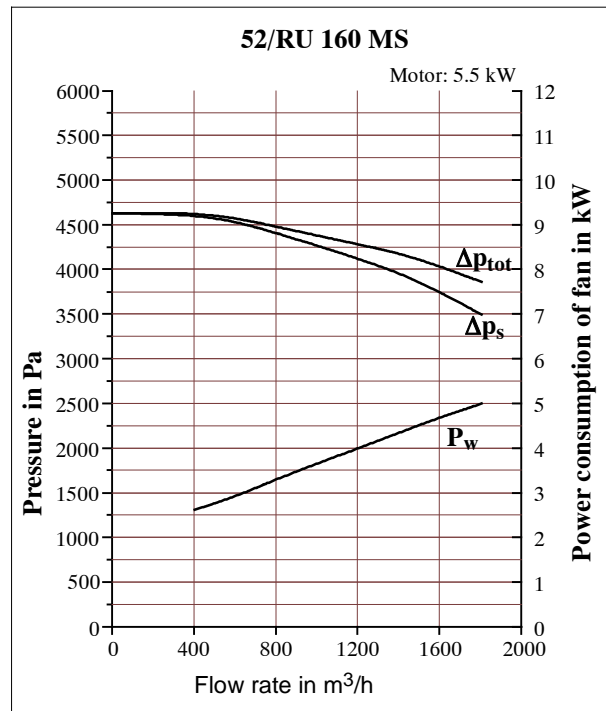
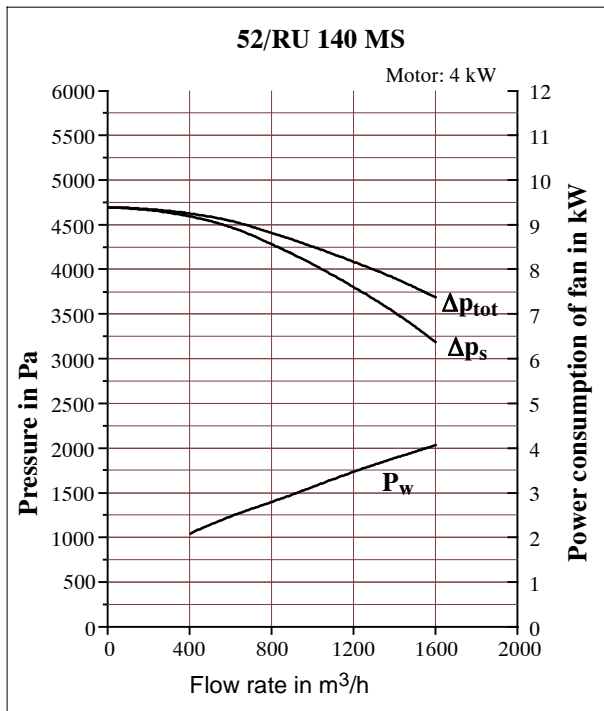
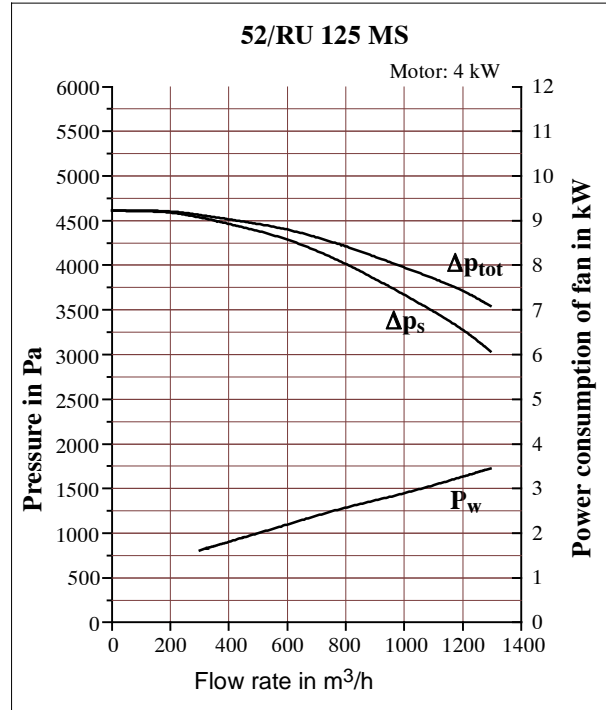
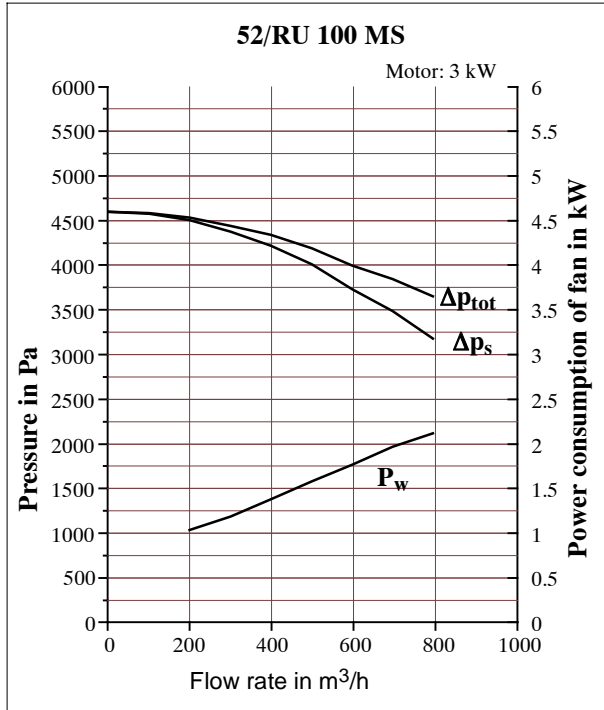
Position L 360

Position L 90

Position L 270

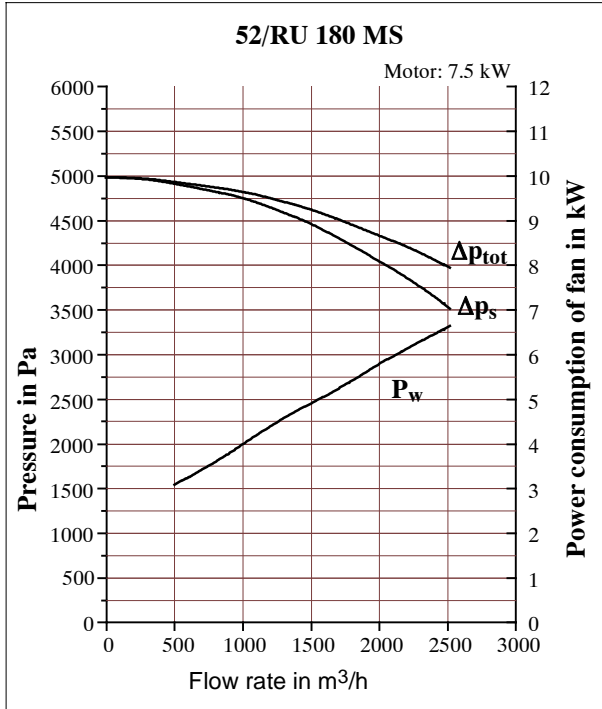
LTG High-pressure Conveying Fans Series VSR-52/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



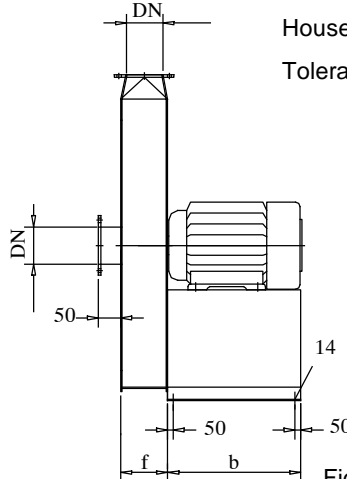
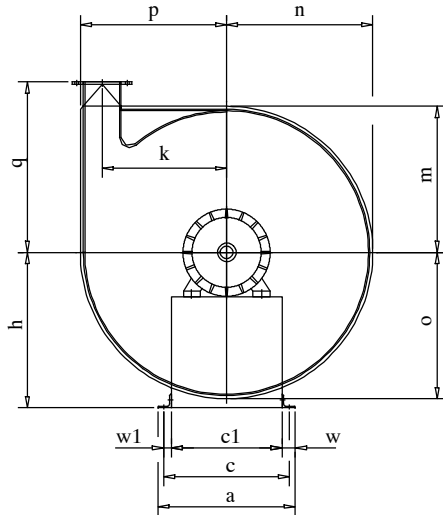
LTG High-pressure Conveying Fans Series VSR-52/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



LTG High-pressure Conveying Fans Series VSR-53/RU...MS

Dimensions



Houses are non-rotating
Tolerances according to DIN ISO 2768-cL

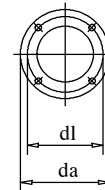
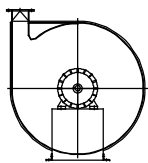


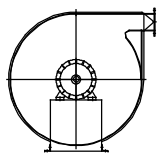
Figure:
Housing position R360

Size VSR-53/RU	80 MS	100 MS	125 MS	140 MS	160 MS	180 MS
a	400	400	400	450	450	450
b	350	350	350	400	400	450
c1	300	300	300	350	350	350
c	360	360	360	410	410	410
w	50	50	50	50	50	50
w1	30	30	30	30	30	30
h	430	430	430	480	480	480
f	104	104	104	104	119	136
k	358	350	340	387	380	361
m	405	405	405	390	390	390
n	405	405	405	420	420	420
o	405	405	405	440	440	440
p	405	405	405	470	470	470
q	460	460	460	460	460	460
DN	80	100	125	140	160	180
dl	114	135	161	180	198	217
da	134	155	181	206	224	243
Bolts	4 x M8	4 x M8	8 x M8	8 x M8	8 x M8	8 x M8

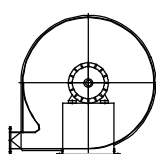
Housing positions (View onto motor side)



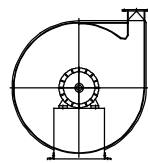
Position R 360



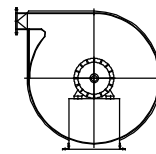
Position R 90



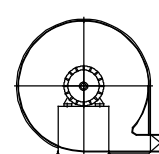
Position R 270



Position L 360



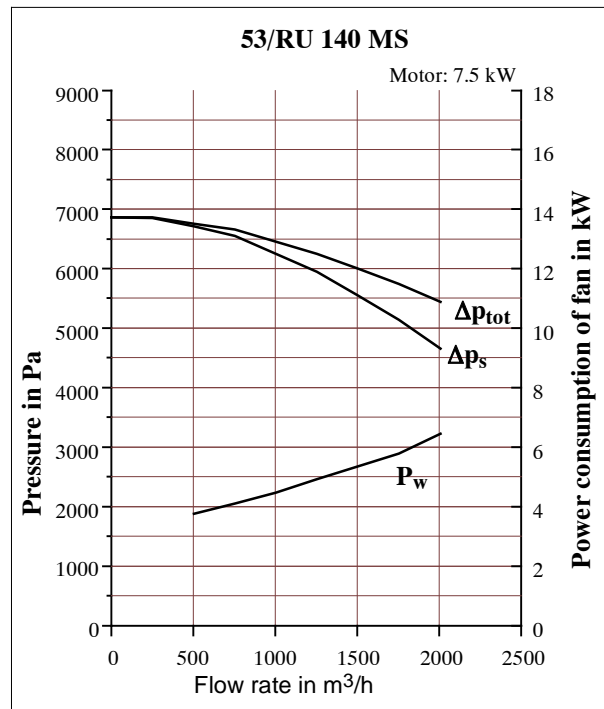
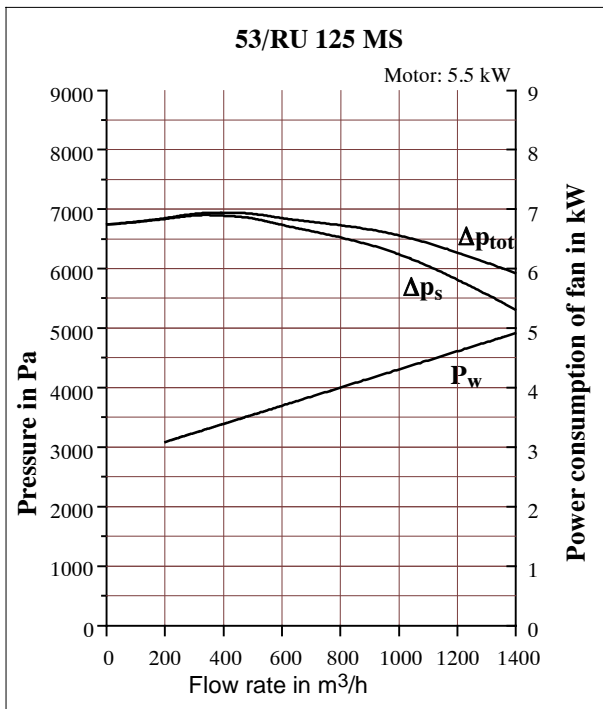
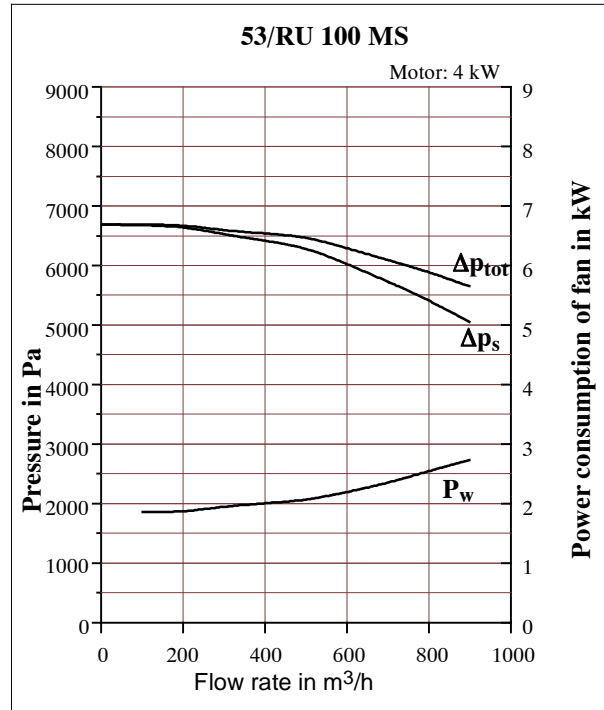
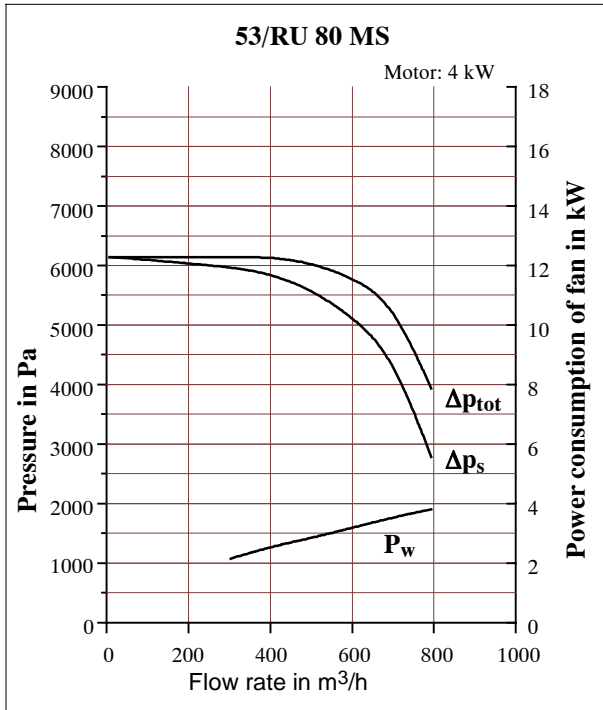
Position L 90



Position L 270

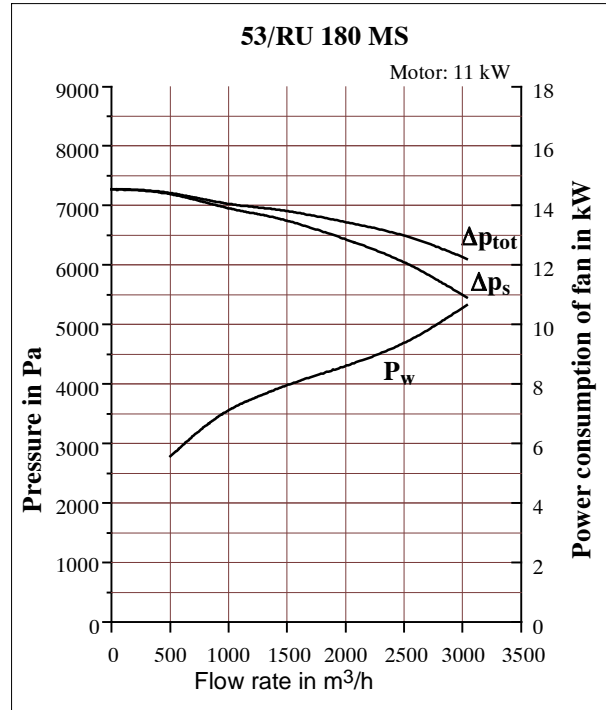
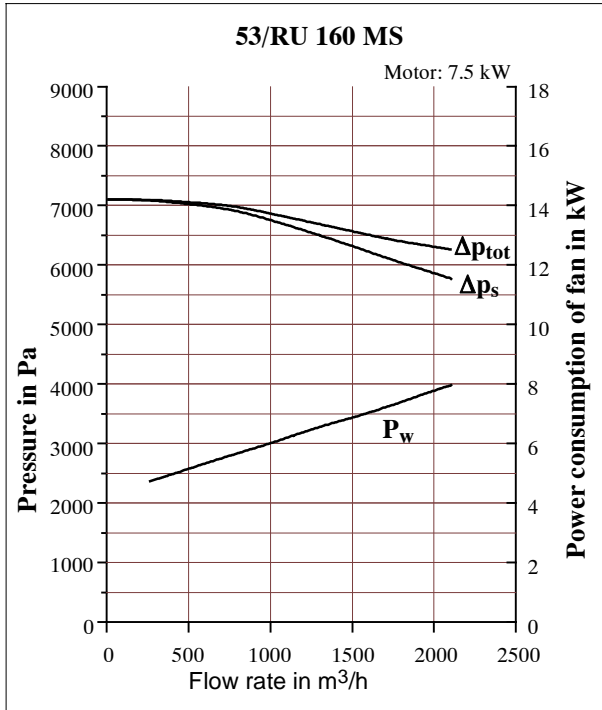
LTG High-pressure Conveying Fans Series VSR-53/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



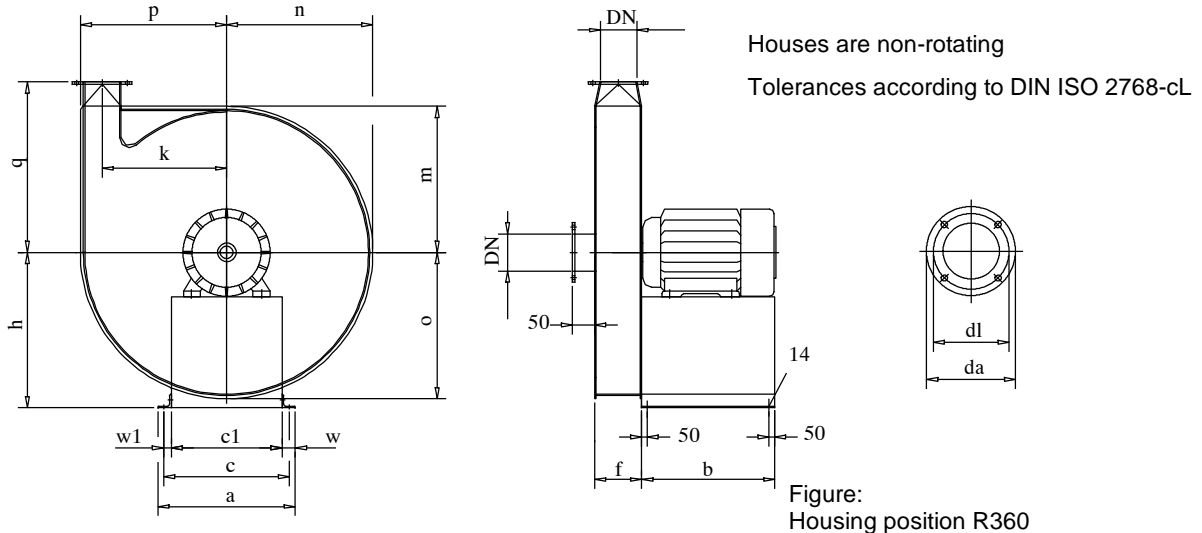
LTG High-pressure Conveying Fans Series VSR-53/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



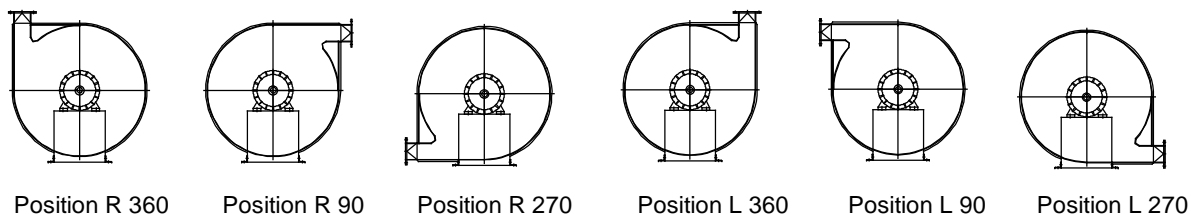
LTG High-pressure Conveying Fans Series VSR-54/RU...MS

Dimensions



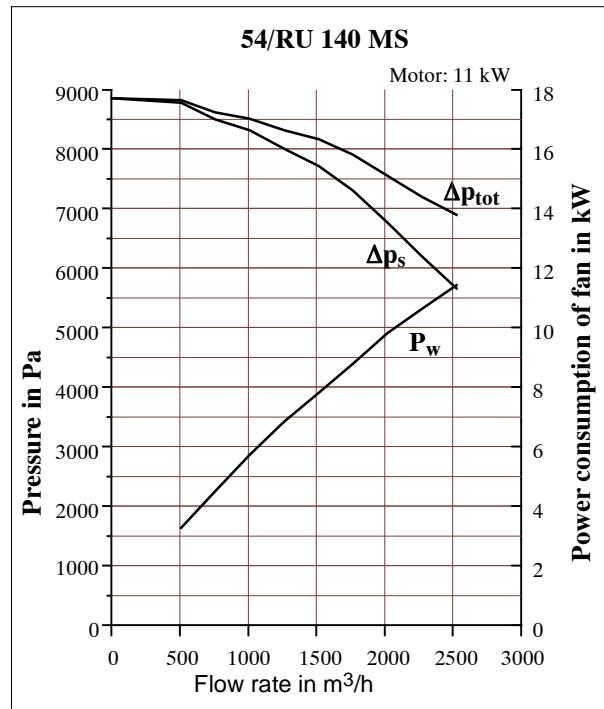
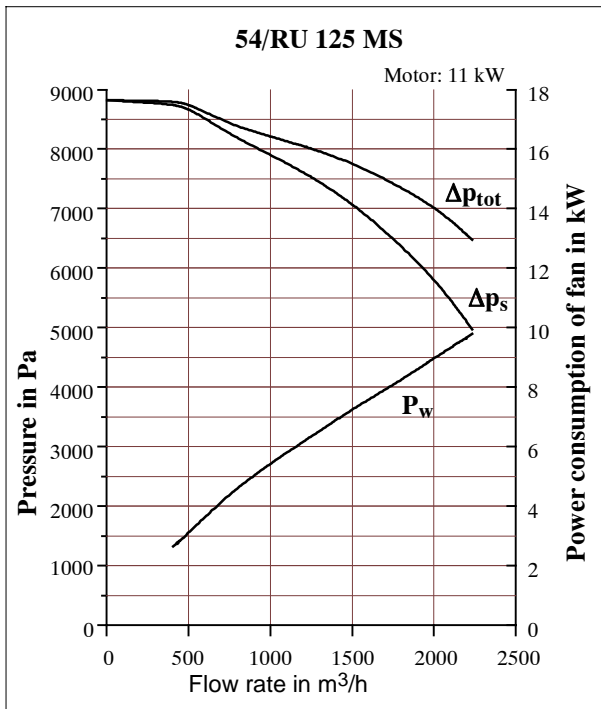
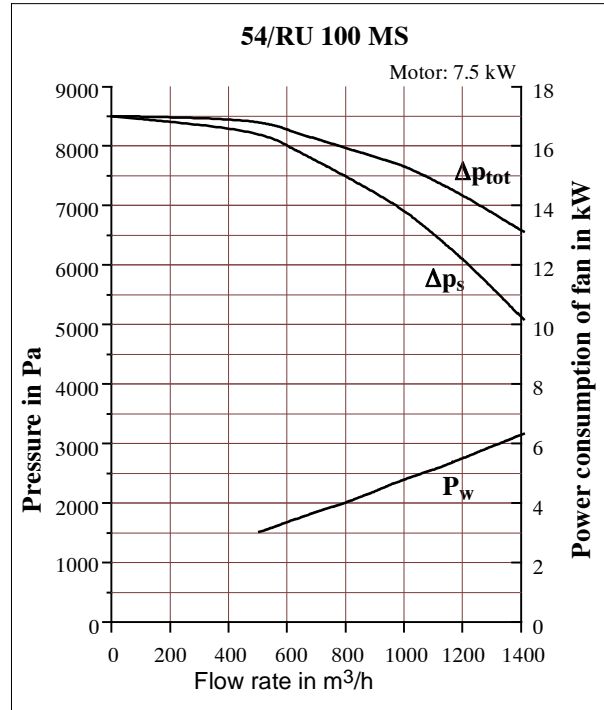
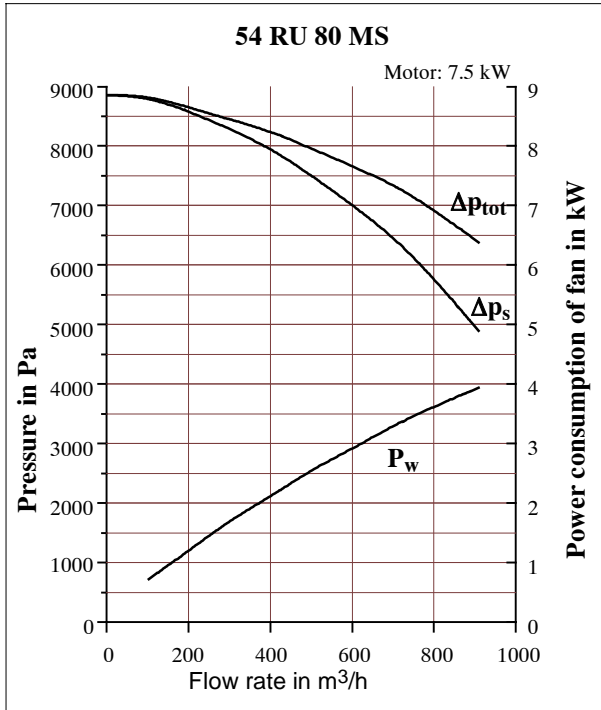
Size VSR-54/RU	80 MS	100 MS	125 MS	140 MS	160 MS
a	450	450	450	500	500
b	400	400	500	520	520
c1	350	350	350	400	400
c	410	410	410	460	460
w	50	50	50	50	50
w1	30	30	30	30	30
h	450	450	480	560	560
f	106	106	106	106	121
k	381	370	357	410	401
m	430	430	430	430	430
n	430	430	430	450	450
o	430	430	430	470	470
p	430	430	430	490	490
q	485	485	485	500	500
DN	80	100	125	140	160
dl	114	135	161	180	198
da	134	155	181	206	224
Bolts	4 x M8	4 x M8	8 x M8	8 x M8	8 x M8

Housing positions (View onto motor side)



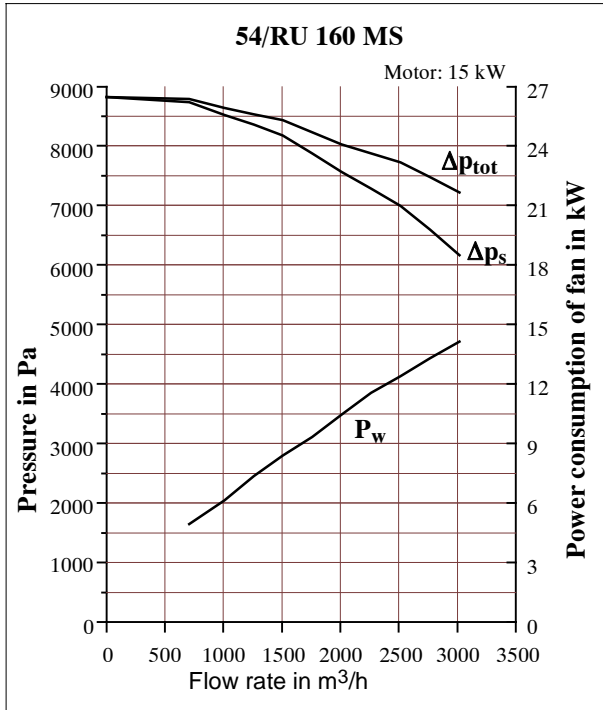
LTG High-pressure Conveying Fans Series VSR-54/RU...MS

Fan curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



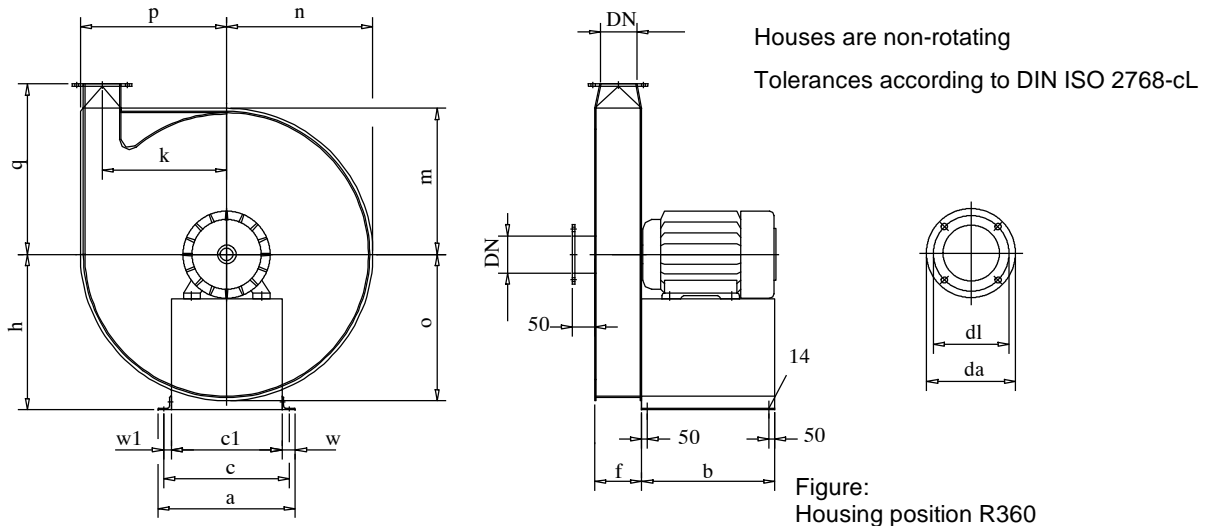
LTG High-pressure Conveying Fans Series VSR-54/RU...MS

Fan curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)



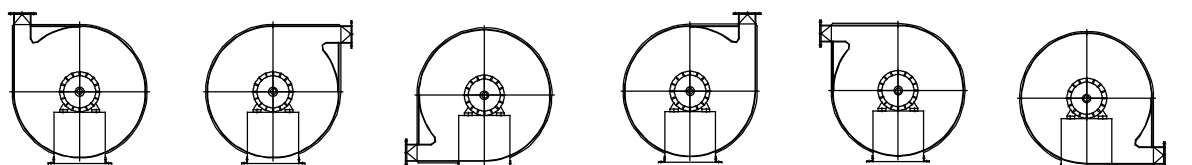
LTG High-pressure Conveying Fans Series VSR-55/RU...MS

Dimensions



Size VSR-55/RU	80 MS	100 MS	125 MS	140 MS
a	500	500	500	500
b	520	520	520	520
c1	400	400	400	400
c	460	460	460	460
w	50	50	50	50
w1	30	30	30	30
h	560	560	560	560
f	108	108	108	108
k	431	420	408	462
m	480	480	480	480
n	480	480	480	500
o	480	480	480	520
p	480	480	480	540
q	540	540	540	555
DN	80	100	125	140
dl	114	135	161	180
da	134	155	181	206
Bolts	4 x M8	4 x M8	8 x M8	8 x M8

Housing positions (View onto motor side)



Position R 360

Position R 90

Position R 270

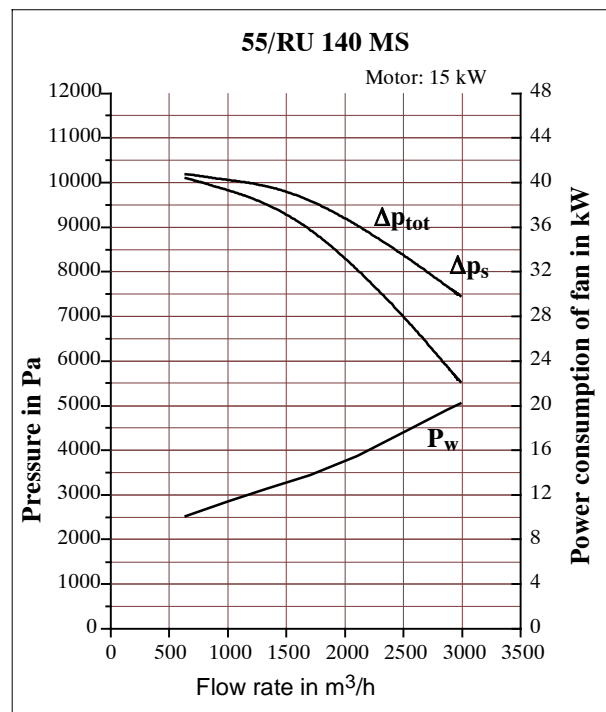
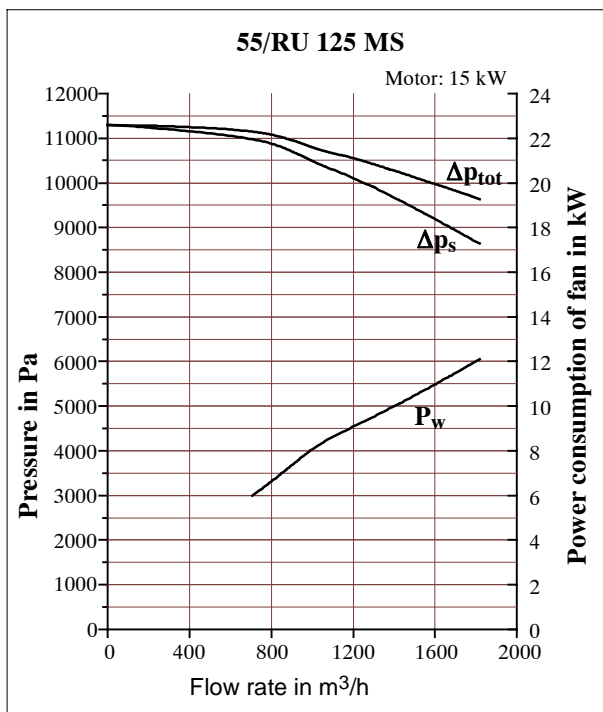
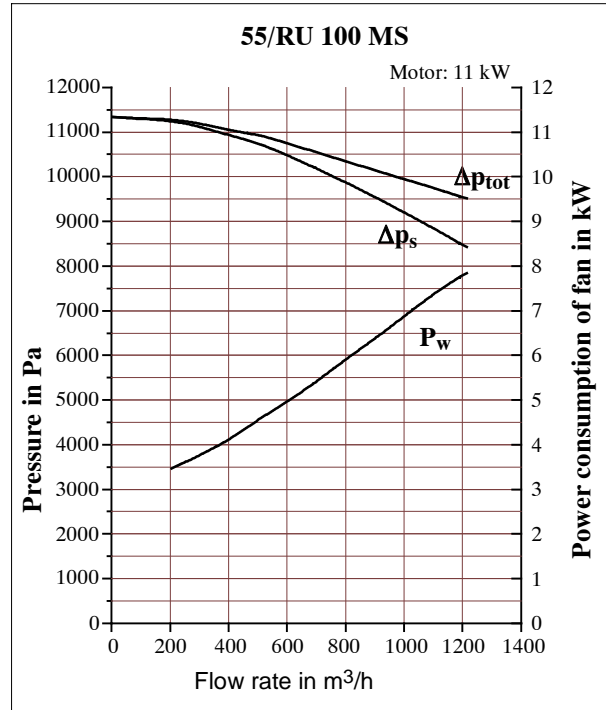
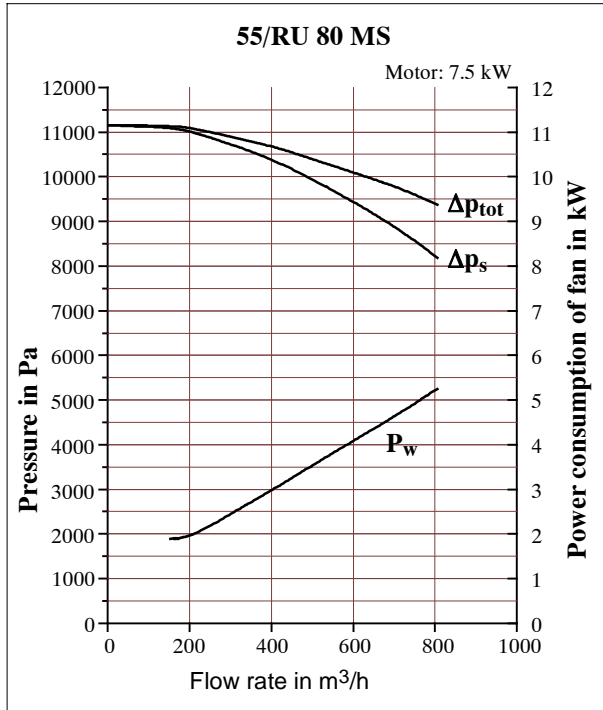
Position L 360

Position L 90

Position L 270

LTG High-pressure Conveying Fans Series VSR-55/RU...MS

Fan Curves (at 20 °C, $\rho = 1.2 \text{ kg/m}^3$)





Comfort Air Technology

Air Conditioning Systems

- Decentralized Facade Ventilation Units
- Fan Coil Units
- Induction Units,
Active Chilled Beams

Air Diffusers

- Linear Air Diffusers
- Wall and Floor Mounted Air Diffusers
- Swirl Diffusers
- Industrial and Special Air Diffusers

Air Distribution

- Flow Rate and Pressure Controllers
- Shut-off and Balancing Dampers
- Silencers

Process Air Technology

Fans

- Tangential Fans
- Axial Fans
- Centrifugal Fans
- Fahrtwind-Simulators

Filtration Technology

- Suction Nozzles
- Dampers
- Filters, Dust Collectors
- Separators, Compactors

Humidification Technology

- Air Humidifiers
- Product Humidifiers

Engineering Services

Fluid Engineering

- Flow analysis
- Flow visualization
- CFD-simulations
- Flow optimization
- Air conditioning concepts

Thermodynamics

- Calorimetric performance measurement
- Thermal, dynamic, unsteady,
system simulations

Acoustics

- Sound level measuring
- Vibration analysis
- Echo chamber measurement
- Acoustic optimization

Comfort

- Evaluation
- Optimization

Customer-specific Solutions

- Product development
- Process optimization
- Installation analysis

LTG Aktiengesellschaft

Grenzstraße 7
70435 Stuttgart
Germany
Tel.: +49 (711) 8201-0
Fax: +49 (711) 8201-696
E-Mail: info@LTG.net
www.LTG.net

LTG Incorporated

105 Corporate Drive, Suite E
Spartanburg, SC 29303
USA
Tel.: +1 (864) 599-6340
Fax: +1 (864) 599-6344
E-Mail: info@LTG-INC.net
www.LTG-INC.net