

 HYDERABAD	PRODUCT STANDARD INDUSTRIAL TURBINES & COMPRESSORS	TC56448
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DISCHARGE SILENCER

1.0 Scope:

This standard covers the technical requirements of DISCHARGE silencer with bolting material for air service. The design of performance, mechanical design and external dimensions shall be as per manufacturer's standard practice.

2.0 Service:

The silencer shall be designed for continuous operation at the full flow conditions given in spec. The Silencer shall attenuate the noise generated by the discharge to atmosphere to a permissible noise level indicated in Annexure1.

Material of Construction:

Material of construction shall be as follows

Shell:	IS 2062 Gr. B.
Inlet tube Assy:	IS 2062 Gr. B
Support:	IS 2062 Gr. B
Baffle Plate:	IS 2062 Gr. B
Lifting Lug:	IS 2062 Gr. B
Bird screen Assy:	IS 2062 Gr. B
Hood Assy:	IS 2062 Gr. B
Diffuser Assy:	SA 240 Type 304
Perforated Sheet:	SA 240 Type 304.

Design criteria:

As per Annexure1

Documents/Information submitted:

5.1 generated noise level curve on octave band center frequencies

5.2 Attenuation curve of silencer

5.3 Residual noise level curve on octave band centre frequency the curve shall be below iso 80 curve

5.4 Drawing of silencer showing internal details supporting arrangement dimensions and each part material specification

5.5 Installation and maintenance manual

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5.6 Reproducible original drawings of silencer.

5.7 Weight of silencer.

5.8 Allowable forces and moments on silencer due to piping stresses

5.9 Static and dynamic forces of silencer while silencer is in operation

5.10 Vendor to supply fixing bolts and nuts.

5.11 Supplier shall provide material certificates of every part of silencer

5.12 Manufacturer shall stand guarantee for 12 months after the silencer is put into service for performance and mechanical requirements.

Note: Items highlighted in bold shall be submitted along with offer

Variant Table

Variant	Description
01	Discharge silencer 14" #150 RF

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REV	REV DATE	REV DESCRIPTION	REV BY	APP BY

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ANNEXURE-1

1 Installation		
1.1	Installation	Indoor
1.2	Heated	Yes
1.3	Rain protection	No
2 Area		
3 Ambient Conditions		
3.1	Min/Max Temperature	max 48.25°C and min 18°C
3.2	Ambient Temperature	40°C
3.3	Min/Max Relative Humidity	50% and 100%
	Relative Humidity	60% at 27° C
4 General Data		
4.1	Continuous Operation	Yes
4.2	Type of Machine set	Air Compressor
4.3	Type of silencer	Discharge silencer
5 Design Data		
5.1	Design Code	ASME VII,Div1
5.2	Corrosion Allowance	3mm
6 Data Concerning air flow		
6.1	Medium	Air
6.2	Kappa	1.389
6.3	Mol Weight	28.226
7 Silencer Data		
7.1	Location of mounting	Vertical
7.2	Silencer complete welded construction	Yes
7.3	Internals welded	Yes
7.4	Supports	Yes
7.5	Pressure relief part installed	Yes
7.6	Lifting Lugs	Yes
7.7	Earth Connection	Yes
7.8	End connections	Flanged 14" #150RF
8 Operating Data		
8.01	Volume Flow(Dry) (1.0133 bar, 0°C)(Operating)	7486 Am ³ /h
8.02	Mass Flow Wet (Operating)	11660 Kg/hr
8.03	Operating Temperature	141.11°C
8.04	Pressure before Silencer(Operating)	1.94bar (g)

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9.0 SOUND DAMPING								
Guarantee LP (1m behind silencer)				85 dB(A)				
Spectrum (Hz)	63	125	250	500	1000	2000	4000	8000
Outlet Discharge Nozzle Lp (dB)	89.7	91.7	95.7	97.7	99.7	100.7	95.7	89.7
Damping (dB) *								

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