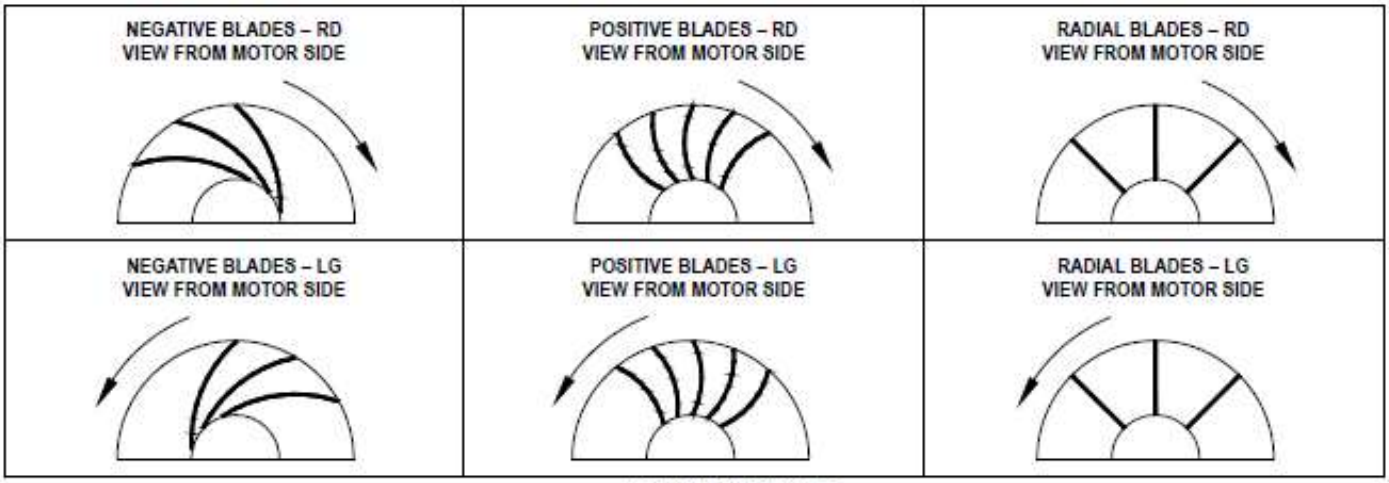
TECHNICAL DESCRIPTION

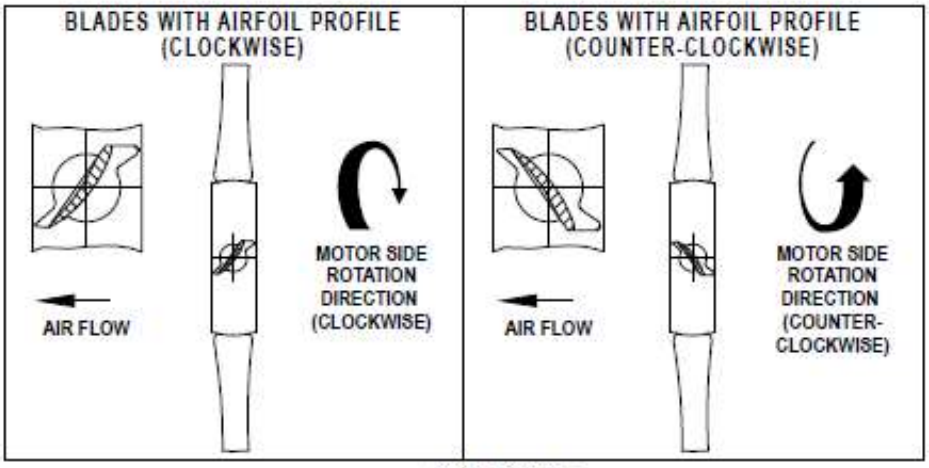
DESCRIPTION OF THE MACHINE

The industrial fan is a turbo operating machine receiving mechanical energy and using it, by means of a bladed impeller, to keep a continuous flow of air or other gases passing through the same, providing a work per mass unit not greater than 25 kJ/kg (UNI EN ISO 13349).

- Radial fan (centrifugal): fan where the fluid meets the impeller in the axial direction with it and the leaves it in a direction perpendicular to the axis. The blades: negative where the fluid is processed with the rear and convex part (EU-EUM-MPR-TR-BT-BPRD-APR.-APR.D); positive where the fluid is processed with the front and concave part (BP-TPA-TQ-TF-TG-AP.); radial or straight: where the fluid is processed indistinctly with the rear or front part, if there are no blade reinforcements on one or the other part (TTRC-TH) (s. FIG. 3).
- Axial fan: fan where the fluid meets and leaves the impeller along cylindrical surfaces coaxial with it.
  The blades: WITH WINGED PROFILE obtained by aluminum die casting (EVF-EVP-EVC-EVL-EVT).
  Air Flow A: Which means that the Air flow goes from the motor (support) to the impeller.
  Air Flow B: Which means that the Air flow goes from the impeller to the motor (support).
  Air Flow U: Which means that the Air Flow goes down up.
  Air Flow D: Which means that the Air Flow goes top down



Centrifugal fan impeller



Axial fan impeller

CLASSIFICATION

Fans are classified based on the maximum deliverable pressure trend, the flow in the impeller, and the drive system.

Based on the maximum deliverable **pressure**, fans are classified as **high pressure, medium pressure** and **low pressure** fans.

Considering the **trend of the flow** in the impeller, they can be classified as **centrifugal** or **axial**.

Centrifugal fans are fans in which air enters the impeller with a direction that is essentially axial and leaves the same with a direction that is perpendicular to the axis. A specific configuration is the **double stage** one.

Axial fans are fans in which air enters and leaves the impeller along essentially cylindrical surfaces coaxial with the fan itself.

Based on the drive system, fans can be subdivided into fans with **belt drive** and fans **directly coupled with an internal electric motor**. A specific direct coupling system is the one with flexible joint (**N8**).

Pressure	**HIGH PRESSURE**				**MEDIUM PRESSURE**		**LOW PRESSURE**			
Drive system	Direct		Belt	Direct N8	Direct	Belt	Direct		Belt	
Executions	4/5		1/9/12	8	4/5	1/9/12	4	4/5	1/9	1/9/12
Flow trend	Centrifugal	Double stage	Centrifugal		Centrifugal		Axial	Centrifugal	Axial	Centrifugal
Series	APE	APRED	APEc	APRF/N8	EU	EUc	EVP	BP	EVc	BPRc
	APF	APRFD	APFc	APRG/N8	EUM	EUMc	EVF	BPR		BPc
	APG	APRGD	APGc	APRH/N8	MPR	TRc	EVL	BT		BPRDc (*)
	APRF		APRFc	APRI/N8	TR	TTRc	EVT			
	APRG		APRGc	APRL/N8	TPA	TFc				
	APRH		APRHc		TQ	TGc				
	APRI		APRIc		TF	THc				
	APRL		APRLc		TG	MPRc				
					TH					

(*) Arrangement 6, 19, 18