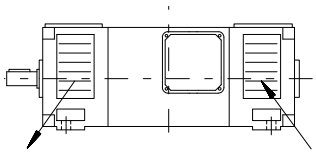
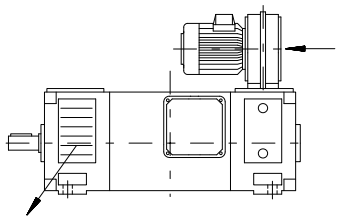
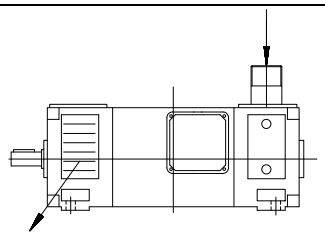
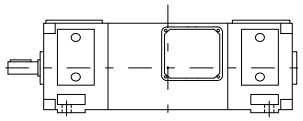
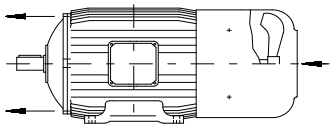
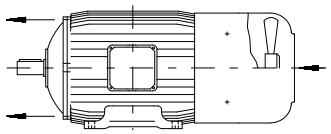
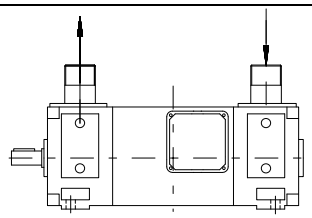
Cooling methods for motors

Classification of the cooling methods (IC code) acc. to DIN EN 60034-6 and NEMA MG1 part 6

IC 01		Enclosure IP 21- IP 23 (type G...) **Self-ventilated with integral fan cooling (DP)** Cooling air is blown through the motor by a fan mounted on the shaft.
IC 06		Enclosure IP 21- IP 23 (type G...I) **Separate ventilation with radial fitted fan unit (FV)** Cooling air is blown through the motor by a separately excited fan motor.The inlet side may be equipped with an air filter.
IC 17		Enclosure IP 21- IP 23 (type G..) **Single pipe ventilated (FV)** Cooling air is blown across the motor through the pipe connection with a separate customer provided external blower fan and discharges on the other side to open space.
IC 410		Enclosure IP 44 - IP 55 (type G..Z) **Totally-enclosed nonventilated (TENV)** Cooling without using a fan, only by natural ventilation and radiation on the totally enclosed motor surface.
IC 411		Enclosure IP 44 - IP 55 (type G..ZE) **Totally-enclosed fan-cooled (TEFC)** Cooling air is blown over the totally enclosed motor surface by a fan mounted on the shaft.
IC 416		Enclosure IP 44 - IP 55 (type G..ZO) **External surface cooling (TEFV)** Cooling air is blown over the totally enclosed motor surface by an separately excited fan motor.
IC 37		Enclosure IP 44 - IP 55 (type G..Z) **Double pipe ventilated (TEPV)** Cooling air is blown across the motor through a pipe connecting by means of a separate customer provided external blower fan and discharges on the other side's pipe connecting.

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