

OVERVIEW

Mandatory Minimum Energy Performance Standards (MEPS) for pumps, fans and air compressors are in place in the following jurisdictions, for industrial applications:

Jurisdiction	Pumps	Fans	Air compressors
China			
European Union, Norway, Switzerland, Türkiye, United Kingdom			
Ghana			
Mexico			
South Korea			
Chinese Taipei (Taiwan)			
United Arab Emirates			
United States			

CLEAN WATER PUMPS

Jurisdiction	China	European Union ¹	Mexico	Chinese Taipei (Taiwan)	United Arab Emirates	United States
Regulation	GB 19762-2025	(EU) No 547/2012	NOM-004-ENER-2025	Ministry of Economic Affairs Announcement No. 11004605700	UAE.S 5010- 7: 2017	10 CFR/Part 431/Subpart Y
Required from	01/03/2026	01/01/2013	26/10/2025	01/01/2023	2017	27/01/2020
Metric	Efficiency Index (EI)	Minimum Efficiency Index (MEI)	Pump Efficiency Index (PEI)	Energy efficiency, Energy Efficiency Index (EEI)		Pump Efficiency Index (PEI)
Requirement	Different EI values per pump type	MEI = 0.4	PEI values	Bare pumps: energy efficiency standard C40, water pump units: $EEI \leq 0.988$		Different PEI values for constant load and variable load
Power range		<150 kW shaft	0.149 kW - 1.492 kW (1/5 HP - 2 HP)	0.75 kW – 200 kW		0.75 kW – 150 kW
Products regulated	Single-stage single- & double-suction, multi-stage (petrochemical) centrifugal pumps for fresh water	ESOB, ESCC, ESCCi, MS-V, MS-H, MSS, BS ²	Clean Water Motor Pump Assemblies being centrifugal and peripheral impeller types	Three-phase motor-driven end-suction water pumps, 2-/4-poles (ESOB, ESCC, ESCCi ³) within the range of $Q \geq 6 \text{ m}^3/\text{h}$ and $H \leq 140 \text{ m}$	Rotodynamic water pumps for pumping clean water	ESCC, ESFM, IL, RSV, ST, RSHES, RSHIL, SVIL, VT ⁴

¹ Plus Norway, United Kingdom, Türkiye, Switzerland

² ESOB = End suction own bearing, ESCC = End suction close coupled, ESCCi = End suction close coupled inline, MS-V = Vertical multistage, MS-H = Horizontal multistage, MSS = Submersible multistage, BS = Booster sets

³ ESOB = End suction own bearing, ESCC = End suction close coupled, ESCCi = End suction close coupled inline.

⁴ ESCC = End suction close coupled, ESFM = End suction frame mounted/own bearings, IL = In-line, RSV = Radially split, multi-stage, vertical, in-line casing diffuser, ST = Submersible turbine, RSHES = Radially-split, multi-stage, horizontal, end-suction diffuser casing, RSHIL = Radially-split, multi-stage, horizontal, in-line diffuser casing, SVIL = Small vertical in-line, VT = Vertical Turbine.

CLEAN WATER PUMPS

Jurisdiction	China	European Union ¹	Mexico	Chinese Taipei (Taiwan)	United Arab Emirates	United States
Other product types under different regulation	<p>GB 32030-2022: submersible motor-pumps</p> <p>GB 37483-2019: rotary aerator in wastewater treatment</p> <p>GB 37485-2019: submersible mixers of wastewater</p>	<p>(EC) No 641/2009: circulators</p>	<p>NOM-004-ENER-2014: domestic water pumps</p> <p>NOM-001-ENER-2014: vertical turbine pumps</p> <p>NOM-006-ENER-2015: pumping systems for deep well in operation</p> <p>NOM-010-ENER-2004: deep well type submersible pump motor assembly</p>			<p>10 CFR 431.465(j): circulator pumps</p> <p>10 CFR 431.465(f): dedicated-purpose pool pumps</p>

¹ Plus Norway, United Kingdom, Türkiye, Switzerland

FANS

Jurisdiction	China	European Union ¹	Ghana	Chinese Taipei (Taiwan)
Regulation	GB 19761:2020	(EU) 2024/1834	LI 2444	Ministry of Economic Affairs Announcement No. 11258002530
Required from	01/06/2021	24/07/2026	02/11/2022	
Metric	Fan Efficiency Grade (FEG), Fan Motor Efficiency Grade (FMEG)	Fan Motor Efficiency Grade (FMEG)	Fan Motor Efficiency Grade (FMEG)	Fan Motor Efficiency Grade (FMEG)
Requirement	Based on peak efficiency, impeller efficiency for centrifugal and axial fans, and overall (combination of fan and drive) efficiency for forward-curved fans with external rotors	Efficiency grade N specific for each fan type, ranging from N50 to N67	Efficiency grade N specific for each fan type, ranging from N50 to N67	Efficiency grade N specific for each fan type ranging from N40 to N62
Power range		125 W – 500 kW	125 W – 500 kW	0.75 kW - 200 kW
Products regulated	General-purpose centrifugal fans, General-purpose axial flow fans, Centrifugal induced draft fans for industrial boilers, Centrifugal fans for boiler of power station, Axial flow fans for power station, Centrifugal fans for HVAC ⁵ , Forward multi-blade centrifugal fans	Axial fans, Centrifugal fans, Cross flow fans, Mixed flow fans, Jet fans	Axial fans, Centrifugal fans, Cross flow fans, Mixed flow fans	Axial fans, Centrifugal fans, Mixed flow fans
Other product types under different regulation	GB 28381-2026 : centrifugal blowers			

¹ Plus Norway, United Kingdom, Türkiye, Switzerland

⁵ HVAC = Heating, ventilation and air conditioning

AIR COMPRESSORS

Jurisdiction	China	South Korea	Chinese Taipei (Taiwan)	United States
Regulation	GB 19153-2019	MOTIE Notification No. 2024-169	Ministry of Economic Affairs (MOEA) Announcement No. 11458003610	10 CFR/Part 431/Subpart I
Required from	01/07/2020		01/01/2021	10/01/2025
Metric	Specific input power , kW/(m ³ /min), for fixed and variable speed	Overall efficiency of compressor ⁷	Isentropic efficiency	Isentropic efficiency
Requirement	Maximum specific input power, different values per compressor type	0.47 - 0.52 reciprocating compressors 0.61 - 0.68 screw compressors	Proportional loss factor d=-5	d = -10 for air-cooled variable speed; d = -15 for others
Power range	0.25 kW - 630 kW ⁶	2.2 kW - 110 kW ⁶	3.7 kW - 200 kW ⁶	7.5 kW - 150 kW
Products regulated	Oil-injected / lubricated rotary air compressors: - Fixed speed (1.5 kW - 630 kW and discharge pressure of 2.5 - 14 bar) - Variable speed (2.2 kW - 315 kW and discharge pressure of 2.5 - 14 bar) Reciprocating piston air compressors (0.75 kW - 75 kW) Oil-free reciprocating piston air compressors (0.55 kW - 22 kW and discharge pressure of 4 - 14 bar)	Constant-speed and variable-speed compressors: - Reciprocating compressor (2.2 kW - 15 kW) - Screw compressor (15 kW - 110 kW)	Oil-injected / lubricated rotary air compressors: - Fixed-speed (3.7 kW - 200 kW) -Variable-speed (7.5 kW - 200 kW) -Piston air compressors (3.7 kW - 22 kW)	Rotary, lubricated compressor: - Air- or liquid-cooled - Fixed- or variable-speed

⁶ Varies depending on compressor type

⁷ Overall Efficiency of Compressor: The overall efficiency of compressor is defined as the ratio of power for isentropic compressed air relative to the compressor's power consumption (package power consumption in the case of package compressors).