

## Dex DM / PM 3000 (S)<sup>[1]</sup> Series

All new welding experience with a brand-new pulse process. The pulse welding is much simplified.

### A Completely New Hardware Platform

- Adopting a leading three-level topology for the main power. Output frequency is as high as 180 KHz; soft switch is used for all power switch tubes. The power density is highly upgraded with a full digital control program. Heat radiation is generally lowered. A smaller radiator is used and the weight of power source is lowered as a result.
- Efficiency as high as 90% is reached thanks to the leading power conversion design. It is 20% higher than traditional MIG/MAG welding machines, and 8% higher than inverter welding machines of previous designs.
- A unique twin-cycle motor drive and control system. The inner cycle is controlled by current to gain power wire-feeding; the exterior cycle is controlled by the speed to achieve stabilized wire-feeding.
- Code wheel is used for the sampling of speed. Precise wire-feeding speed control is achieved.
- More than one enclosed cabinet is designed. Strong and weak current are completely separated. Pollution to PCB is largely blocked. The effective design against water and dust helps to extend the duration and increased the stability. IP23S is reached as a leading achievement of the whole industry.
- Applying a integrated cooling tunnel of compact and enclosed design. The rotating speed of AC cooling fan can be varied infinitely. Cooling efficiency is largely improved while the loss of cooling effect is decreased. The duration of the fan is extended as well.



### The All New Control Program

- Power source with 2 control cycle. Super high in control frequency. Through the complete software adjustment, the transfer status of each droplet can be precisely controlled and helps welders to face each welding process with confidence.
- The welding current change can reach as fast as 1500A/millisecond. The melting of welding wire happens in the high current scope of XXX. Stabilized in welding arc and highly tolerant against external interference. The stability of welding arc can recover soon after abnormality.
- Highly tolerant in variation of welding voltage. Changes in stick-out length can be well managed, despite the cause. The requirement and dependence on welding torch, wire-feeder, the precise and constant skills of the welders.
- Allowing switching between Standard and High-Speed mode. Two different welding process with distinguished features are available in one system.

[1]: Dex DM / PM 3000 is a compact MIG/MAG equipment. Dex DM / PM 3000S comes with an external wire-feeder.

## Dex DM3000(S)

**Complete out-performance over conventional welding machines<sup>[2]</sup>.**



- Higher in duty cycle. Higher in deposition efficiency. Higher in wire feeding speed. 28m/min at maximum. Welding speed can exceed 2m/min, with no sacrifices of welding result.
- Smooth and highly successful in arc ignition. Welding pool can be immediately created after ignition. Full-sized weld can take shape in 0.3 second.
- Soft in welding arc; strong in gap-filling welding and allowing confident handling of seam variations resulted from un-precise cutting.
- Sharp in welding arc; clear in arc direction; strong in arc penetration, reaching higher depth of penetration.
- Intelligent in welding energy control, concentrating energy on the wire melting section. High in deposition efficiency. Reaching higher wire-feeding speed at the same welding wire.
- Lower in reduced current. With a welding current control of more improved design, spatter is much limited.

## Dex PM3000(S)

**All new process brings a new and comfortable welding experience of pulse MIG/MAG.**

- Multifunctional. All welding processes of DM3000 are available in PM3000. It can handle carbon steel, stainless steel, aluminum alloy with MIG/MAG, Pulse MIG/MAG and Double Pulse MIG/MAG processes.
- The optional QPT process supports high welding speed up to 2.0 m/min for butt welding at flat position.
- Abundant in expert welding database. Synergic control The all new control system of pulse welding brings smoother arc ignition, more stabilized welding and lower welding spatter.
- Strict in energy distribution under the welding system, making better weld formation of double pulse process. Clear fish scale pattern can be achieved even for stainless steel.
- Expert database and special process for various aluminum welding to guarantee premium performance of different types of aluminum.
- Individual parameters of pulse welding process open to personalized adjustment for even higher welding quality.



[2]: Conventional welding machines refer to welders based on tapper, thyristor and analogy inverter welders.

# Dex DM / PM 3000 (S) Series

## Specification

Manual Robotics	Dex DM 3000*	Dex DM 3000 S Dex DM 3000 R	Dex PM 3000*	Dex PM 3000 S * Dex PM 3000 R
Control Mode	Full Digital-Control			
Rated Input Voltage	AC 3PH 380V -15% ~ +21% (3PH 323V ~ 3PH 460V)			
Input Frequency	45 ~65 HZ			
Rated Input Power	9.2 KVA / 8.7 KW			
Power Factor	0.94			
Efficiency	81% (210A / 24.5V)			
Rated OCV	54.2 V			
Rated Output Current	280 A			
Output Current Range	30A~300A			
Rated Output Voltage	12 ~ 30 V (Precision at 0.1V)			
Duty Cycle	280A / 28V 60% @ 40°C 217A / 24.9V 100% @ 40°C			
Duty Cycle (CE*)	250A / 26.5V 60% @ 40°C 207A / 24.5V 100% @ 40°C			
Applicable Material	Carbon Steel / Stainless Steel		Carbon Steel / Stainless Steel / Aluminum Alloy	
Welding Process	MIG / MAG / CO <sub>2</sub> / MMA		MIG / MAG / CO <sub>2</sub> / MMA Pulse MIG/MAG Double Pulse MIG/MAG	
Wire Diameter	φ 0.8 / 0.9 / 1.0 / 1.2 mm			
Welding Operation Mode	2T		2T / 4T / Special 4T	
Parameter Channel	50 (Standard)			
Inductance Scope (Soft / Strong Arc)	-9 ~ +9			
Communication with Robot Controller	-	Analog; DeviceNet; CAN Open; MEGMEET CAN; EtherNet/IP	-	Analog; DeviceNet; CAN Open; MEGMEET CAN; EtherNet/IP
External Wire-feeder	-	Yes	-	Yes Enclosed type with digital meters (A / V)
Cooling Mode	Air Cool; Water Cool (Optional)			
Wire-feeding Speed	1.4 ~ 28 m/min			
Electromagnetic Compatibility	IEC60974:10 EMS			
Insulation Grade	H			
Ingress Protection	IP 23S			
Protection Against Lightening	Class D (6000V/3000A)			
Working Temperature & Humidity	-40°C ~ +70°C ; Humidity ≤ 95%;			
Dimension (L / W / H)	610 × 260 × 398 mm			
Gross Weight	25.4 KG	23.7 KG	25.4 KG	23.7 KG
Water Cooler Anycool-68 (Optional)				
Rated Power	260W			
Rated Voltage	AC 380V			
Volume of Cooling Water	6.8L			
Flow of Cooling Water	3.5L / min			
Max Pump Head	20 m			

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