



# TECHCLEAN

The best cleaning system

# Company Profile

Established in March 2011, Techclean is specialized in dry ice cleaning system. We develop and produce eco-friendly dry ice cleaning equipment and dry ice Pelletizer through our top-notch R&D manpower. We are committed to development of highly reliable product with high efficiency environment friendliness and safety. We are striving for the world's leading company in cleaning equipment via continuous Investment on R&D and the best maintenance service. Techclean is highly competitive in the market via its creativity, tenacity and effort to provide products that satisfy our customers. Techclean always put products that meet customer needs in the highest priority. Please watch us stepping forward to the future.

## History

- 2017**      Opened to new model of Tech-5 (block type)
- 2016**      - Patent pending for Tech-5
- 2015**      - Patent registered to 10-152-4205 for dry ice cleaning machine  
- Received CE certificate for dry ice cleaning machine
- 2014**      - Received ISO9001  
- Received patent for dry ice cleaning machine  
- Patent registered to 10-135-1526 for dry ice cleaning machine
- 2013**      - Renamed to Techclean co.,Ltd  
- Registered official vendor for Samsung Electro-mechanics
- 2012**      - Provided dry ice cleaning booth to Korea Ginseng Corporation  
- Developed and provided ISM cleaning system to Samsung electronics  
- Registered official vendor for Samsung Electro-mechanics  
- Provided dry ice cleaning system to POSCO
- 2011**      - Established Seo Jin Emco



## Certifications



## Dry Ice Cleaning principle

When spraying out dry ice pellet (3mm) with over 2mohs of hardness at over 5 bars of air input, it impacts on foreign substance at approx >>300~800m/s of speed, generating heat impact due to difference of temperature between cleaning target and pellet.

After that, difference of coefficient of thermal expansion between inter-metallic compounds and the foreign substance makes them repeatedly contract and expand, creating crack.

Dry ice getting into the crack expand 800 times larger and peel off foreign substance from the target.

The compressed air removes foreign substance without any humidity.

### Safety

Regarding stress, deformation rate and surface abrasion caused when spraying dry ice (Hardness:2 mohs, Temp.-78.5 C) to cleaning target

>> the drastic difference of temperature with target is limited to surface (20~50mm) only and instantaneous heat impact cannot cause deformation or abrasion since it is insignificant compared to heat treatment process of metallic and non-metallic materials.

(For example, when skin is exposed to dry ice for short time, it causes low temperature burn other than frostbite)

### Cost saving

**Reduce down time** >> Dry ice cleaning is highly cost effective as it does not require dismantlement, assembly, and post processing of cleaning target

**Reduce cost to process hazardous waste** >> It does not make any hazardous waste which is normally caused when using organic solvent

**Reduce maintenance cost** >> Rapid cleaning saves cost for management and maintenance.

**Reduce abrasion of equipment** >> Dry ice cleaning helps increase life span of equipment by cleaning the part without surface abrasion.

### Comparison with other cleaning methods

Cleaning method	Abrasive	Toxic	Secondary waste	Electrically conductive	Effectiveness
Dry Ice Blasting	No	No	No	No	Excellent
Sand Blasting	Yes	No	Yes	No	Ok
Soda Blasting	Yes	No	Yes	No	Ok
Steam Blasting	No	No	No	Yes	Excellent
Water Blasting	No	Yes	Yes	Yes	Ok
Solvents/Chemicals	No	Yes	Yes	Yes	Excellent





## Dry Ice Blaster



<b>Model</b>	Tech-35K
<b>Dimension</b>	680L × 520W × 830 H (mm) in body
<b>Weight</b>	110kg
<b>Hopper capa</b>	35kg
<b>Pellet consumption</b>	0~2.5kg/min (Micro adjustable)
<b>Air pressure</b>	3kg/cm <sup>2</sup> (Option : 20kg/cm <sup>2</sup> )
<b>Air consumption</b>	3m <sup>3</sup> /min
<b>Gun S/W</b>	Purge button/ Continuous injection system
<b>Blasting/Air hose</b>	3/4inch
<b>Motor</b>	0.75kw(1HP)/Control inverter speed
<b>Blasting hose /Gun cable</b>	All in one ( Double insulation)
<b>Electric power</b>	220V, 60Hz
<b>Electric cord</b>	1.5S、3P、5m ( Power cord internal type)

### Feature

- Eco-friendly cleaning process
- Economic cleaning time
- Dry cleaning method to work
- None secondary pollutant
- Convenience to replace of nozzle
- Smooth control of dry ice by the best feeder tech
- Designed to minimize the noise
- Superior ability to clean in the wide range
- Installation of a hanger of hose to manage in convenience
- Easy to replace of nozzle by applications, operating time saved
- Installation of purge switch
- Function to prevent of pellet clogging
- Assembled to a sheath pack for prevention from the scratch
- Application of pressure control system to fuel metering
- Installation 8inch caster to moving in soft
- Equipped with automatic power cable reel
- Anti-static function
- Installation of a gas absorber to smooth for hopper door
- Ergonomic design



## Dry Ice Blaster



<b>Model</b>	Tech-35
<b>Dimension</b>	740L * 632W * 846H (mm) in body
<b>Weight</b>	105kg
<b>Hopper capa</b>	35kg
<b>Pellet consumption</b>	0~2.5kg/min (Micro adjustable)
<b>Air pressure</b>	3kg/cm <sup>2</sup> (Option : 20kg/cm <sup>2</sup> )
<b>Air consumption</b>	3m <sup>3</sup> /min
<b>Gun S/W</b>	Purge button/ Continuous injection system
<b>Blasting/Air hose</b>	3/4inch
<b>Motor</b>	0.75kw(1HP)/Control inverter speed
<b>Vibrator</b>	Volume control in front panel
<b>Blasting hose /Gun cable</b>	All in one ( Double insulation)
<b>Electric power</b>	220V, 60Hz
<b>Electric cord</b>	1.5S、3P、5m

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- Ergonomic design



## Dry Ice Blaster



<b>Model</b>	Tech-25
<b>Dimension</b>	620L * 380W * 827H (mm) in body
<b>Weight</b>	95kg
<b>Hopper capa</b>	25kg
<b>Pellet consumption</b>	0~2.5kg/min (Micro adjustable)
<b>Air pressure</b>	3kg/cm <sup>2</sup>
<b>Air consumption</b>	3m <sup>3</sup> /min
<b>Gun S/W</b>	Purge button/ Continuous injection system
<b>Blasting/Air hose</b>	3/4inch
<b>Motor</b>	0.55kw /Control inverter speed
<b>Blasting hose/ Gun Cable</b>	Al in one (double insulation cover)
<b>Electric power</b>	Single 220V, 60Hz
<b>Electric cord</b>	1.0S, 3P, 5m

### Feature

- Designed to minimize the noise
- Compact size with light weight
- Better cleaning function to plastic mold and facilities
- Installation of purge switch
- Function to prevent of pellet clogging
- Assembling to a sheath pack for prevention from the scratch
- Convenience to replace of nozzle
- Installation a gas absorber bar to smooth for hopper door
- Installation of a hanger of hose to manage in convenience



Gun / Nozzle RS-550 / Nozzle RS-300 / Nozzle SF12-R90



## Dry Ice Blaster



<b>Model</b>	Tech-15
<b>Dimension</b>	550L * 350W * 720H (mm) (in body)
<b>Weight</b>	65kg
<b>Hopper capa</b>	15kg
<b>Pellet consumption</b>	0~2.5kg/min
<b>Air pressure</b>	3kg/cm <sup>2</sup> (option: 20kg/cm <sup>2</sup> )
<b>Air consumption</b>	3m <sup>3</sup> /min
<b>Gun S/W</b>	Purge button/ Continuous injection system
<b>Blasting/Air hose</b>	3/4inch
<b>Motor</b>	0.4kw (1/2HP)
<b>Blasting hose/Gun Cable</b>	All in one (Double insulation cover)
<b>Electric power</b>	Single 220V, 60Hz
<b>Power code</b>	1.0S、3P、5m

### Feature

- Low noise level
- Compact size with SUS material
- Available to clean in small and mid size molds
- Gun S/W in purge function, higher efficiency to clean
- Function to prevent of pellet clogging
- Assembling to a sheath pack for prevention from the scratch



Blasting hose / Scoop / Ear muff / Protection cap / Tool box



## Dry Ice Blaster



<b>Model</b>	Tech-5
<b>Dimension</b>	655(L) × 483(W) × 550(H)/mm ( with handle, W=815mm )
<b>Weight</b>	80kgs
<b>Hopper capa</b>	8.5L (6L + 2.5L)
<b>Feeder rate</b>	0 ~ 1.0kg/min
<b>Air pressure</b>	From 2bar
<b>Blasting pressure</b>	2.0 ~ 7.5bar
<b>Gun S/W</b>	Purge button/ Continuous injection system
<b>Blasting/Air hose</b>	½" 3m
<b>Electric power</b>	220V, Single phase, 50~60Hz
<b>Cleaning medium</b>	-Dry ice block (max): 140 × 140 × 300/mm - Dry ice pellet: 3mm - Lco2 ( Siphon type)

### Feature

- Wide usefulness than two type sources
- ROI improvements
- Free moving and to place with table top design
- Full range cover from Micro ind to Heavy ind
- Pellet: All kinds of Mold, General machinery, Electric, Medical, Food, Architecture, Environment
- Block: Parts, Small device, Finished product
- Lco2: Semiconductor, LCD, Glass
- Smooth control by advanced feeder tech
- Prevent of pellet clogging
- Adjustable of blasting pressure
- Gun S/W with purge function, keeping the high efficiency
- Convenience to nozzle replacement by quick coupler
- Low noise level
- Enhance durability with using of anti-corrosion material in parts of machine
- Stainless steel cabinet to minimize pollution



The back /



Shake box /



Metering gauge /



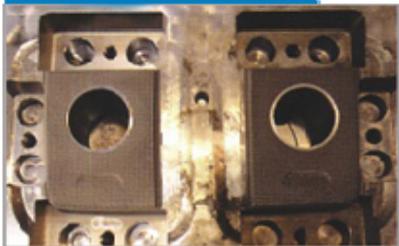
Accessories



## Application

### Plastic injection

Remove specular gas and clean crack for injection molding



Vehicle rear light



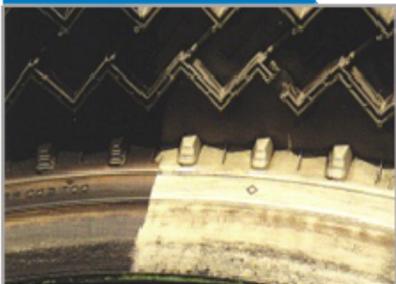
Exterior of electric appliance



Automotive parts

### Rubber

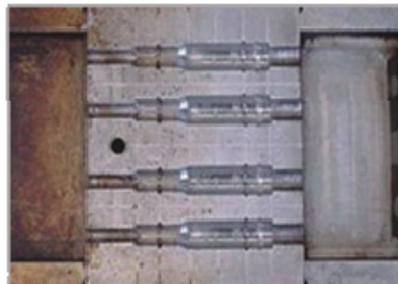
Cleaning stubborn stain exposed to gas and high temperature in cavity of rubber molding



Tire



Connector



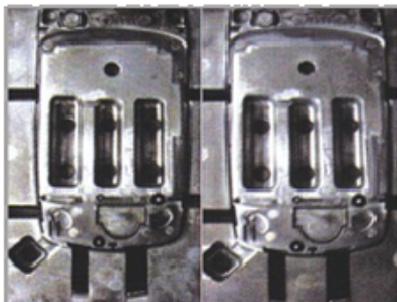
Auto part

### Die casting

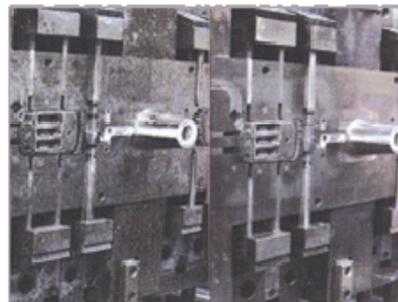
Remove anomalies and prevent burning of die-casting



Auto part



Auto part



Auto part

### Die casting

Remove mould clean and foreign substance



Auto part



Auto part



Auto part

**Press mold**

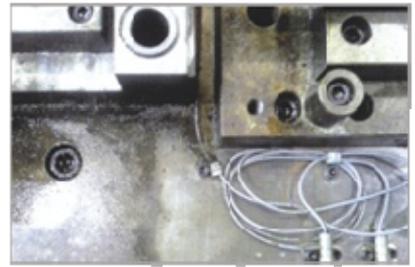
Remove oil and metallic dust



Automotive parts



Automotive parts



Sensor and cable

**Welding**

Remove sludge and foreign substance



Parts



Facilities



Steel sheet

**Extended application**



Remove rust on steel sheet



Remove paint on steel sheet



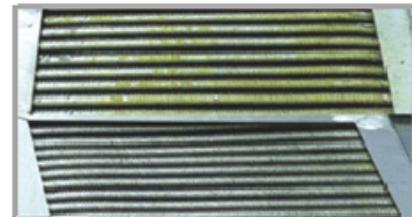
Remove paint on chain facility



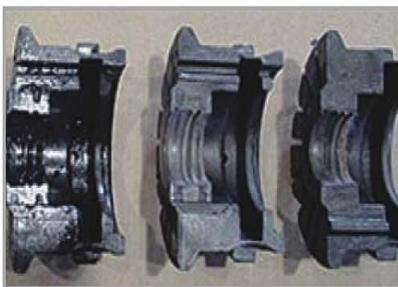
Food process facility



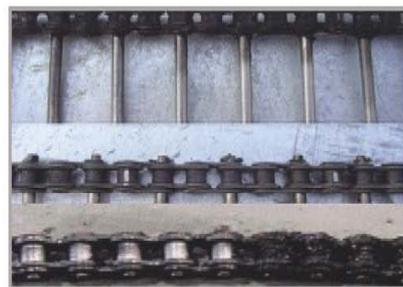
Foaming-Vehicle interior material



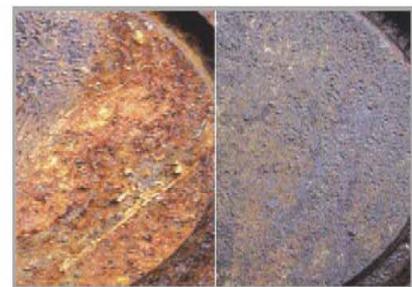
Filter



Ship parts



Chain



Chemical plant



## Dry Ice Pelletizer



<b>Model</b>	TDP-300
<b>Production capa</b>	300kg/h
<b>Pellet diameter</b>	3mm (option: 16mm)
<b>Dimension</b>	1850L * 1200W * 1950H (mm)
<b>Weight</b>	1350kg
<b>Electric power</b>	380V(60Hz)/3phase/36A/25Hp
<b>Lco2 Pressure</b>	17~20bars

### Feature

- Techclean's dry ice system produces high density dry ice pellet to maximize cleaning effectiveness.
- Aluminum exterior prevents a corrosion
- Easy to operation with touch screen controller
- High performance heat exchanger with max. conversion rate
- Conveniently produce various sizes of pellet thanks to easy change of die plate
- Easy to install anywhere thanks to highly portable design
- Ergonomic design and production allows maximum efficiency of use
- One-touch emergency button allows immediate stop of machine operation in case of emergency
- AI type self diagnosis feature maximizes life span of equipment



<b>Model</b>	TDP-200
<b>Production capa</b>	200kg/h
<b>Pellet diameter</b>	3mm (option: 16mm)
<b>Dimension</b>	1500L * 1100W * 1950H (mm)
<b>Weight</b>	1000kg
<b>Electric power</b>	380V(60Hz)/3phase/25A/20Hp
<b>Lco2 Pressure</b>	17~20bars

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- Techclean's dry ice system produces high density dry ice pellet to maximize cleaning effectiveness.
- Aluminum exterior prevents a corrosion
- Easy to operation with touch screen controller
- High performance heat exchanger with max. conversion rate
- Conveniently produce various sizes of pellet thanks to easy change of die plate
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## Dry Ice Pelletizer



### Feature

- Touch screen operating
- Convenience to operate
- Hydraulic drive system
- Self diagnosis system
- TDP models produce

<b>Model</b>	TDP-100
<b>Production capa</b>	100kg/h
<b>Pellet diameter</b>	3mm (option: 16mm)
<b>Dimension</b>	1300L * 1100W * 1950H (mm)
<b>Weight</b>	800kg
<b>Electric power</b>	380V(60Hz)/3phase/18A/15Hp
<b>Lco2 Pressure</b>	17~20bars



<b>Model</b>	Nugget Player
<b>Dimension</b>	300L * 240W * 250H (mm)
<b>Weight</b>	15kg
<b>Nugget weight</b>	250~400g
<b>Nugget size (mm)</b>	MAX 85 (L) 135 (W) 30 (T) MIN 85 (L) 60 (W) 30 (T)
<b>Connection pipe</b>	1/4inch
<b>Electric power</b>	220V single
<b>Pressure vessel</b>	LCO2 cylinder (Siphon) ,LGC

### Feature

- Exterior design by stainless steel
- Light weight, Convenience to move
- One touch button to production
- Safety assurance by cryogenic regulator and valve, checking of residual quantity
- Production possibility to different sizes and weights of nugget
- Auto alarm function in the end of production, blocking of L-Co2



YouTube



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