




THAM RICH
 THAM RICH CORPORATION CO., LTD.

**Your Plastics Process Solutions
 Provider**

First-class handling for firstclass product

Best price-performance ratio

Perfect combination

Coperion diverter valves

Keeping you connected

ZSK twin screw extruders.

ZSK SERIES.

Coperion's STS twin screw extruders.

CTE PLUS twin screw extruders.




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Info Center..08-9001-9001

compounding @ extrusion > materials handling > service



ZSK twin screw extruders. The benchmark for maximum throughput and highest product quality in modern processing technology.

Why three letters define the market

Every single component of the ZSK twin screw extruder is an example of top class high technology. With the know-how and experience of the pioneers in the development of the co-rotating twin screw extruder we design every single process step of the extrusion system to meet your individual product requirements. As a result, you benefit from maximum throughput rates and highest product quality. More than 8,000 ZSK systems installed worldwide provide the daily proof.

The ZSK twin screw extruder gives you a processing plant featuring maximum throughput rates, gentle handling of the product and optimum economy. That's what we mean when we say "confidence through partnership".

The ZSK Mc¹⁸ is already a success story. With its specific torque of 18 Nm/cm, it is the most powerful ZSK ever.

It impresses with its extremely high throughput rates, optimum product quality and maximum economic efficiency.



ZSK SERIES

ZSK Mc¹⁸

Extruder for products with high torque requirement, such as engineering plastics and masterbatches.



ZSK MEGAvolume PLUS

Extruder for products with high volume requirement, like products with high solids content in the chemical and food sectors.



KOMBIPLAST

ZSK combined with a single-discharge screw to build up pressure gently for shear-sensitive products such as PVC, cables and special compounds.



ZSK MEGAlab

The reliable scale-up to larger ZSK extruders makes it the ideal compounding system for the recipe development and basic scientific research.



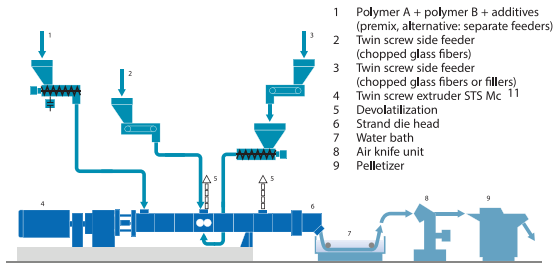
STS
Mc¹¹
BEST QUALITY
HIGHER TORQUE



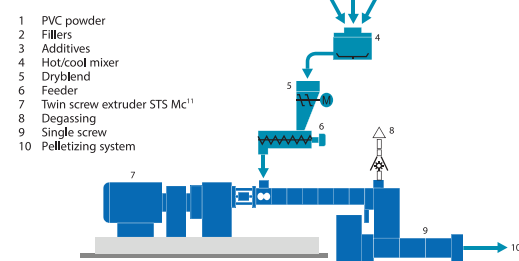
STS Mc¹¹ – the next generation of Coperion’s STS twin screw extruders. Featuring a specific torque of 11.3 Nm/cm³.

EXAMPLE OF EXTRUSION SYSTEMS

TYPICAL SET-UP FOR THE PRODUCTION OF ENGINEERING PLASTICS



TYPICAL SET-UP FOR PVC PRODUCTION



THE ADVANTAGES OF THE STS Mc¹¹ TWIN SCREW COMPOUNDER

- ★ New, optimized base frame to withstand torsion under maximum stress
- ★ Specific torque (Md/a³) increased from 10 Nm/cm³ to 11.3 Nm/cm³
- ★ Maximum screw speed increased from 800 rpm to 900 rpm
- ★ STS Mc¹¹ first time within the “legendary” ZSK MEGA compounder patent owned by Coperion
- ★ Using European gearboxes only
- ★ New die head with improved heating system and optimized flow geometry
- ★ 4D individual barrel with precision single zone tempering
- ★ Self-wiping, co-rotating screw shafts for fast, easy changes in product and color

>> STS Mc¹¹

Best price-performance ratio, High quality components, easy installation and operation



STS 96 Mc¹¹ TWIN SCREW EXTRUDER

>> STS Mc¹¹ two-stage.

High product quality and economic efficiency of heat and shear sensitive materials.



TWO-STAGE COMPOUNDING SYSTEM STS 96 Mc¹¹/250

Technical data

STS Mc ¹¹	Screw diameter [mm]	Max. specific torque Md/a ³ [Nm/cm ³]	Max. torque per shaft [Nm]	Max. screw speed [rpm]	Max. motor power [kW Hp]	Max. throughput [kg/h lbs/h]
35	36	11.3	305	900	60 81	260 573
50	51	11.3	835	900	165 221	800 1,764
65	62	11.3	1,590	900	315 422	1,400 3,086
75	71	11.3	2,440	900	483 648	2,200 4,850
96	94	11.3	5,350	900	706 947	4,200 9,259

Technical data of the STS Mc¹¹ two-stage

	Screw diameter [mm]		Max. motor power [kW Hp]		Max. screw speed [rpm]		Max. throughput [kg/h lbs/h]				
	Twin screw	Single screw	Twin screw	Single screw	Twin screw	Single screw	HFFR	PVC-P	PVC-U	XLPE (DCP) low/medium voltage cables	XLPE (Silene) low voltage cables
35/120	36	120	40 54	22 30	600	60	40-100 88-220	110-250 243-551	60-150 132-331	60-120 132-265	50-100 110-221
50/150	51	150	110 148	37 50	600	60	100-260 221-573	310-700 683-1,543	150-400 331-882	150-300 331-661	125-250 276-551
65/180	62	180	210 282	55 74	600	60	200-480 440-1,058	590-1,400 1,301-3,086	300-750 661-1,654	300-600 661-1,323	250-500 551-1,102
75/200	71	200	322 432	75 101	600	60	300-700 661-1,543	900-2,000 1,984-4,409	450-1,100 992-2,425	450-900 992-1,984	350-700 772-1,543
96/250	94	250	708 949	110 148	600	60	660-1,600 1,455-3,527	2,000-4,600 4,409-10,141	1,000-2,500 2,205-5,512	1,000-2,000 2,205-4,409	800-1,600 1,764-3,527

AREAS OF APPLICATION OF THE STS Mc¹¹ COMPOUNDER

- Filling and reinforcing of engineering plastics
- Alloying and filling of polyolefins/TPE
- Coloring of polyolefins and engineering plastics
- Production of color masterbatch, flame retardant masterbatch, filler masterbatch and additive masterbatch
- Recycling of regrind plastics, etc.
- Cable compounds, incl. PVC, HFFR, XLPE
- Other applications





>CTE 65 PLUS TWIN SCREW EXTRUDER

>> CTE PLUS.
The perfect twin screw compounding system for maximal flexibility.



CTE 65 PLUS TWIN SCREW EXTRUDER

>> CTE PLUS two-stage.
The ideal compounding for gentle processing of heat and shear sensitive materials.



TWO-STAGE COMPOUNDING SYSTEM CTE 75 PLUS/180

CTE PLUS twin screw extruders. Perfect combination of German quality mindset and Chinese innovation.

With the CTE PLUS Coperion Nanjing offers a new twin screw compounding system with a very attractive cost/performance ratio. The precise manufacturing of the CTE PLUS series ensures the economical processing of a wide range of applications at high product quality. The CTE PLUS is equipped with a new gearbox engineered by Coperion Stuttgart, Germany. It offers a new terminal box that meets highest safety standards and is supplied on a unitized base frame at lower cost.

Before delivery each CTE PLUS extrusion system is subjected to a Factory Acceptance Test (FAT) at the Coperion Nanjing site to ensure high quality standards. As an option the CTE PLUS series can be provided with TÜV CE certification. The CTE PLUS series has been developed with a specific focus on the special needs of small and medium-sized companies in China and Asia in terms of technological requirements and price.

CNC machinery with international state-of-the-art equipment, computer controlled machines for grinding of screw parts and for milling of die heads, in-house machining and assembly of gearboxes and our professional quality control are all part of the standards Coperion Nanjing has established to ensure the high reliability of the CTE PLUS compounding systems.



HIGHLIGHTS OF THE NEW CTE PLUS

New gearboxes, engineered by Coperion, Germany, that can bear a specific torque of 7.2 Nm/cm ³ and are exchangeable with old generation CTE gearboxes	
Higher process safety due to new gearbox	
New base frame designed by Coperion, Germany, to ensure higher stiffness	
Gearbox housing manufactured in-house at Coperion Nanjing with CNC machine of Heller, Germany, and with 3-dimensional inspection machine of Carl Zeiss, Germany	checked
Final assembly check with 3-dimensional check instrument of Faro, Switzerland	

Technical data of the CTE PLUS

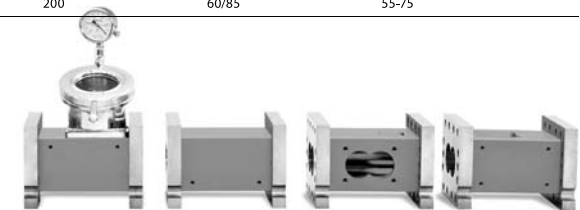
	Torque per shaft [Nm]	Screw diameter [mm]	Max. screw speed [rpm]	Main motor power [kW]	Throughput [kg/h]
CTE 20 PLUS	24	22	600	3	2-10
CTE 35 PLUS	140	36	600	18.5	30-70
CTE 50 PLUS	430	51	600	55	90-220
CTE 65 PLUS	710	62	600	90	150-360
CTE 75 PLUS	1,270	71	600	160	260-650
CTE 96 PLUS	2,500	94	600	315	500-1,300
CTE 135 PLUS	7,160	132	400/600	600/900	1,400-3,500
CTE 165 PLUS	14,300	165	400	1,200	2,000-5,000

Technical data of the CTE PLUS two-stage

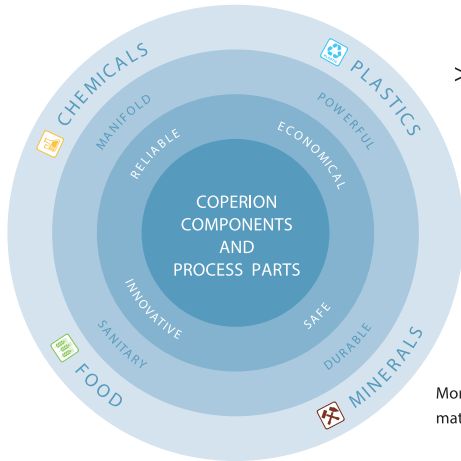
	Model	Screw diameter [mm]	Max. screw speed main motor [rpm]	Main motor power [kW]	Throughput [kg/h]
CTE 50-120 PLUS two-stage	CTE 50 PLUS	51	400/500/600	37-55	100-300
	SE 120	100	60/85	18.5-22	
CTE 65-150 PLUS two-stage	CTE 65 PLUS	62	400/500/600	55-90	150-500
	SE 150	150	60/85	37-45	
CTE 75-170 PLUS two-stage	CTE 75 PLUS	71	400/500/600	110-160	300-900
	SE 180	180	60/85	45-55	
CTE 96-200 PLUS two-stage	CTE 96 PLUS	94	400/500/600	220-315	600-1,800
	SE 200	200	60/85	55-75	

TYPICAL AREAS OF APPLICATION

- Engineering plastics
- Masterbatch
- Filling
- TPE/TPR/TPV
- Wood composites
- Cable compounds (PVC, HFFR, XLPE, semi-conductive)
- Devolatilization/degassing & reaction
- Direct extrusion



PRODUCTLINE COMPONENTS.



>> First-class handling for first-class products.

Conveying, discharging, separating, storing, homogenising, dosing or thermal treatment we master all process steps for processing and handling bulk materials.

More than 200,000 bulk materials components sold

ROTARY VALVES

Powders < 1 mm					Granular products 1–10 mm			
ZXD	ZRD	ZKD	ZXQ	ZAQ	ZVB	ZVD	ZVH	ZGM
1.5 barg	1.5 barg	1.5 barg	3.5 barg	3.5 barg	1.5 barg	1.5 barg	3.5 barg	1.5 barg

>> Coperion Rotary Valves come with the assurance of decades of experience, process know-how as well as with proprietary development and manufacturing with top quality materials.



ROTARY VALVES FOR POWDERS
Benefits: Large inlet. Unrestricted product flow. High filling efficiency.

ROTARY VALVES FOR GRANULAR PRODUCTS
Benefits: Patented anti-chopping inlet geometry. Safe starting under full product load.

DIVERTER VALVES

Granular products		Granular products and powders						
WEK	WET	WZK	WYK	WRK	WHK	WHT	WGV	DWR
6 barg	6 barg	5 barg	5 barg	4 barg	3 barg	3 barg	1 barg	1 barg

>> Coperion diverter valves come with the assurance of decades of experience and process-know-how as well as with proprietary development and manufacturing with top quality materials.



- K-EXECUTION**
Asymmetric design with 35° to 45° angle suitable for distributing and collecting in pneumatic conveying lines and in gravity pipes.
- T-EXECUTION**
Rectangular design with 90° angle for silo filling.
- V-EXECUTION**
Symmetric design with 50° angle for gravity lines.

GATE VALVES



Slide gate valves for powders and granular products, available as pneumatically or manually operated execution.

Powders and granular products	
FUS/FUH	FUT
1,5/3,5 barg	4,5 barg

Nordson

POLYMER PROCESSING SYSTEMS

200+ Years

of Combined Plastics
Industry Experience

1953 1994 2003 2016

Filtration Systems Underwater Pelletizing Systems Melt Pumps



Facts and figures. Filtration systems.

- On the market since 1953.
- Manufacturing of KREYENBORG screen changers since 1967.
- Product portfolio: KREYENBORG screen changers, gear pumps, polymer valves.
- Worldwide sales and service network.
- Over 20,000 filter systems sold worldwide.



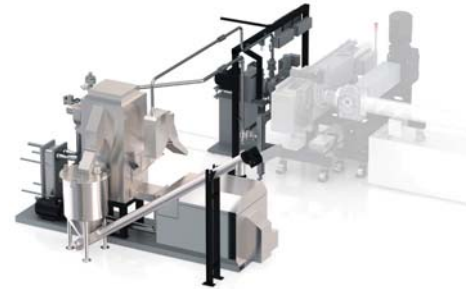
Facts and figures. Underwater Pelletizer systems.

- On the market since 1994.
- Product portfolio: BKG™ Underwater Pelletizing Systems, BKG™ Centrifugal Dryers.
- 4 own offices worldwide.
- 54 representatives worldwide.
- Manufacturing of underwater pelletizing systems and drying systems since 1994.
- Throughputs 2 – 35,000 kg/h.
- More than 100 BKG™ CrystallCut®-Systems for the production of PET in use.
- In-house lab.



Facts and figures. Gear Pump.

- On the market since 1953.
- Manufacturing of KREYENBORG gear pumps since 2001.
- Product portfolio: KREYENBORG gear pumps, screen changers, polymer valves.
- Worldwide sales and service network.



We know your business well.

Flexible use of BKG™ Underwater Pelletizers.

Nordson BKG™ Underwater Pelletizing Systems cannot only be used for thermoplastic polymers but are also suitable for the all materials which behave like thermoplastic polymers.

- » Polyolefines (e.g. LLDPE, LDPE, HDPE, PP, EPDM)
- » Polyamides (e.g. PA 6, PA 6.6, PA 11, PA 12)
- » Polyvinyl chloride (e.g. PVC-P (soft-PVC))
- » Polymerblends
- » Styrol polymers (e.g. PS, SAN, ABS)
- » Thermoplastic elastomers (e.g. TPE-S, TPE-O, TPE-E, TPE-A)
- » Acrylic resin (e.g. PMMA)
- » Polyurethanes
- » Polyacetates (e.g. POM)
- » Hot-melt adhesives (e.g. on the basis of EVA, APAO, PA)
- » Polycarbonates (e.g. PC, PET, PBT, PEN)
- » Natural resins (e.g. chewing gum basic material)
- » Synthetic resins (e.g. epoxy resin)



Operation, maintenance, process stability.

- Safe granulation without downtime.
- No strand tear – low risk of default.
- Low rate of waste due to the automated starting process.
- No “threading” of the strand.
- Very low maintenance costs.
- Automatic cutter adjustment and blade sharpening feature.

Excellence is our standard. Optimized down to the last detail. The ideal technology. Product quality.

- Spherical pellets.
- High product purity and homogeneity.
- No oxidation of the product.
- Optimized and constant dispersion in the follow-up processes.

Space requirement , Emission.

- Very compact design, small space requirement.
- Efficient use of cooling and process water.
- Low steam and noise emission.
- Very clean operation.

หมดปัญหาเรื่องการกัด Polymers ออกจากชิ้นส่วนของท่าน ด้วยกระบวนการอบแบบ

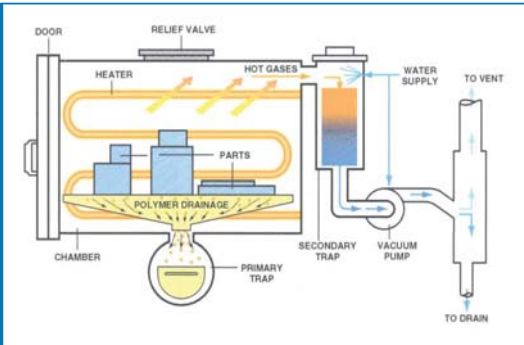
Pyrolysis Cleaning !!



>> Specifically designed to remove all types of thermoplastic and many thermoset compounds from small metallic parts in a safe, efficient manner.

Benefits

- Capable of removing most polymeric materials.
- Fast cleaning cycle.
- Simple operation.
- Reliable and maintenance-free operation.
- Gentle cleaning extension part life.
- Operation safety.
- Energy saving operation.
- Labor saving.



Cleaning cycle

- Cleaning time depend on : Material (Quantity,Type) ● Shape of the equipment. ● Melt flow rate (Faster melt flow faster cycle)
- Filter & Additive. ● Part size : Small 10-20 Kg. approx 3 Hrs.
- Medium 100-200 kg. approx 10 Hrs.
- Large part 1000 kg. approx 24 Hrs.

>> STANDARD MODEL SERIES.



Mini - Jet

- Basic Unit size : 1025 mm. x 725 mm. x 900 mm.
- Camber size : 241 mm. x 317 mm. (Depth)



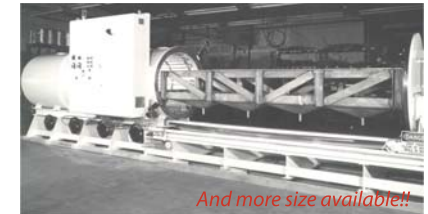
JCP 1724 Jet Cleaner

- Camber size : 407 mm. x 610 mm.
- Cleaning capacity : 136 Kg.



JCP 3648 Jet Cleaner

- Camber size : 813 mm. x 1220 mm.
- Cleaning capacity : 910 Kg.



And more size available!!

JCP 3648 Jet Cleaner

- Camber size : 813 mm. x 4064 mm.

Example

Hytrel Material



PS Material



And Suitable for :

- ABS
- PA
- PP
- PVDC
- PET
- PMMA
- Cellulose
- HIPS
- CPVC
- PETG
- EVA
- EPDM
- Noryl
- PVDF
- LDPE
- Nylons
- PVC
- PU
- SAN
- LLDPE
- PBT
- PS
- RPVC
- PC
- HDPE

Special Plastics: PEEK, PFA, etc.

- Thermoplastics
- Elastomers
- Thermoset Materials

สนใจข้อมูลเพิ่มเติมหรือต้องการทดลองทำความสะอากรุ่นนี้ติดต่อ..

OMNI-CREST

ENGINEERING & CONSTRUCTION

“To deliver efficient, reliable and quality products and Services”

OIL & GAS



PHARMACEUTICAL



SEMICONDUCTOR



NUTRITION



- Provide comprehensive Engineering and Process solutions catered for clients' needs
- Have expanded in sectors such Oil & Gas, Food & Beverages, Process, Pharmaceutical and Waste Water Treatment industries

EXAMPLE OF PROCESS WHAT WE CAN PROVIDE



Clean In Place Systems (CIP)

เป็นการทำความสะอาดโดยไม่ต้องถอดอุปกรณ์ต่างๆ ซึ่งต้องใช้เวลามาก ทำได้โดยการใช้ Pump หมุนวนสารเคมีทำความสะอาดไปยังเครื่องจักร อุปกรณ์ ในระบบท่อ หรือ Tank



Nitrogen Blanketing Systems

ระบบปิดคลุมสารด้วยไนโตรเจน ประโยชน์ในการใช้ระบบ N2 Blanketing

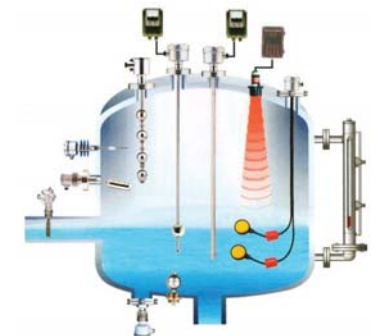
- ป้องกันการทำปฏิกิริยาของสารเคมีกับอากาศ (การเกิดออกซิเดชัน)
- ยืดอายุการใช้งานของถังเก็บ

“To deliver efficient, reliable and quality products and Services”



Material Handling

รับออกแบบและติดตั้งระบบการขนถ่ายวัสดุให้เหมาะสมและเป็นไปอย่างมีระบบ



Level Control

ระบบตรวจจับและควบคุมของเหลว

EXAMPLE OF INSTALLATION PROJECTS



DRYER EXHAUST DUCT & CIP LOOP



POWDER HANDLING SYSTEM



DRYER



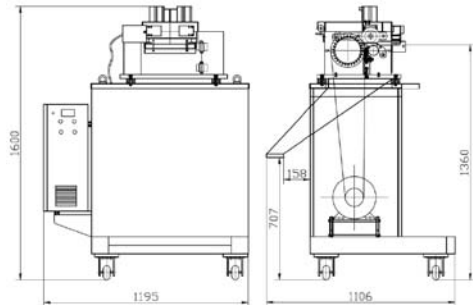
RO MEMBRANE SKIDS

GANTRY PELLETIZER

To produce uniform pellets in wide varieties of size for most of any plastic strands.

Design

- Supplied with speed steel
- Hard alloy steel cutting blades
- Compact structure allows less maintenance
- Cutting assembly is featured quick clean and change over



Specification

Specification	Type	R125	R240
Cutting Rotor (mm)		Φ180 × 125	Φ 180 × 240
Strand Speed (m/min)		83	83
AC Motor		3 Phase / 380 V / 50 Hz	3 Phase / 380 V / 50 Hz
Drive Motor (KW)		5.5/ 7.5	7.5 / 11
Driver Control		Frequency Inverter/Slip Differential Controller	Frequency Inverter / Slip Differential Controller
Max.of strands (pcs.)		30	60
Pellet Size (mm)		Standard Φ 3 × 3	Standard Φ 3 × 3
Material of cutter		High-speed Steel / Hard Alloy	
Overall dimension (L x W x H) (mm)		1106 x 1195 x 1600	1106 x 1195 x 1600
Gross Weigh (kg)		468	495

BFM FITTING

" Keeping you connected "

From This...



UNTIDY



DIFFICULT TO FIT



PRODUCT BUILD UP ISSUES

To This...



TIDY



EASY TO FIT



ELIMINATE ALL PRODUCT BUILD UP

BFM® FLEXIBLE CONNECTOR

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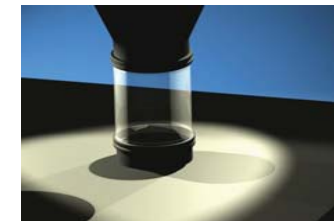
Illustrated BFM® connector manufactured using 040E Seeflex material (Clear Urethane)



Ø (Diameter)	Length (CL)
100	150
125	150
150	150
200	200
250	200
300	200
350	200
400	200
450	200
500	200
550	200
600	200
650	200

BFM® SPIGOTS

Patents and Registered Designs Applied For © 2006
All rights reserved



When welding the BFM® fittings to your equipment the Application Length must be accurately measured.

Ø (Diameter)
100
125
150
200
250
300
350
400
450
500
550
600
650



Automated Storage & Retrieval Systems

- Special AS/RS
- Bucket AS/RS

AUTOLAMP MATERIAL AS/RS

Mold AS/RS Material AS/RS Assembly Line Product AS/RS Shipping Area

Product AS/RS: 18,117 CELLS
Material AS/RS: 7,992 CELLS
Mold AS/RS: 804 CELLS
Total SRM: 20 ST

PNEUMATIC AUTOMATION AS/RS

Pallet: WH 70mL x 16mW x 16mH, 3,600 CELLS, SRM 4ST
Bucket: WH 70mL x 16mW x 16mH, 3,600 CELLS, SRM 4ST

WIRING ACCESSORIES AS/RS

Pallet: WH 151mL x 21mW x 36mH, CELLS 18,972, SRM 5ST
Bucket: WH 137mL x 4mW x 9mH, CELLS 14,220, SRM 25T

CLEAN AMHS

Class 10K, 3,788 CELLS, SRM 10ST, WH 25mLx2mWx4mHxST, Total 10ST

Rack & Shelf Pallet Racking



- Normal AS/RS
- Low Temperature AS/RS

FPC PP CHIP AS/RS (NINGBO)

W/H 106mL x 52mW x 31mH, 21,080 CELLS, SRM 10ST

ABS CHIP AS/RS

W/H 158mL x 42mW x 31mH, 27,744 CELLS, SRM 8ST

NYLON CHIP AS/RS

W/H 110mL x 24mW x 32mH, 12,864 CELLS, SRM DD Type 3ST

SILK AS/RS

W/H 218mL x 47mW x 31mH, 28,336 CELLS, SRM 7ST

Features

- Appropriate for picking heavy goods by pallet.
- High strength and durability.
- Easy for complete installation.
- Araldite static powder coating.
- 100% picking efficiency



Aisle saver pallet rack with most utilization of space

