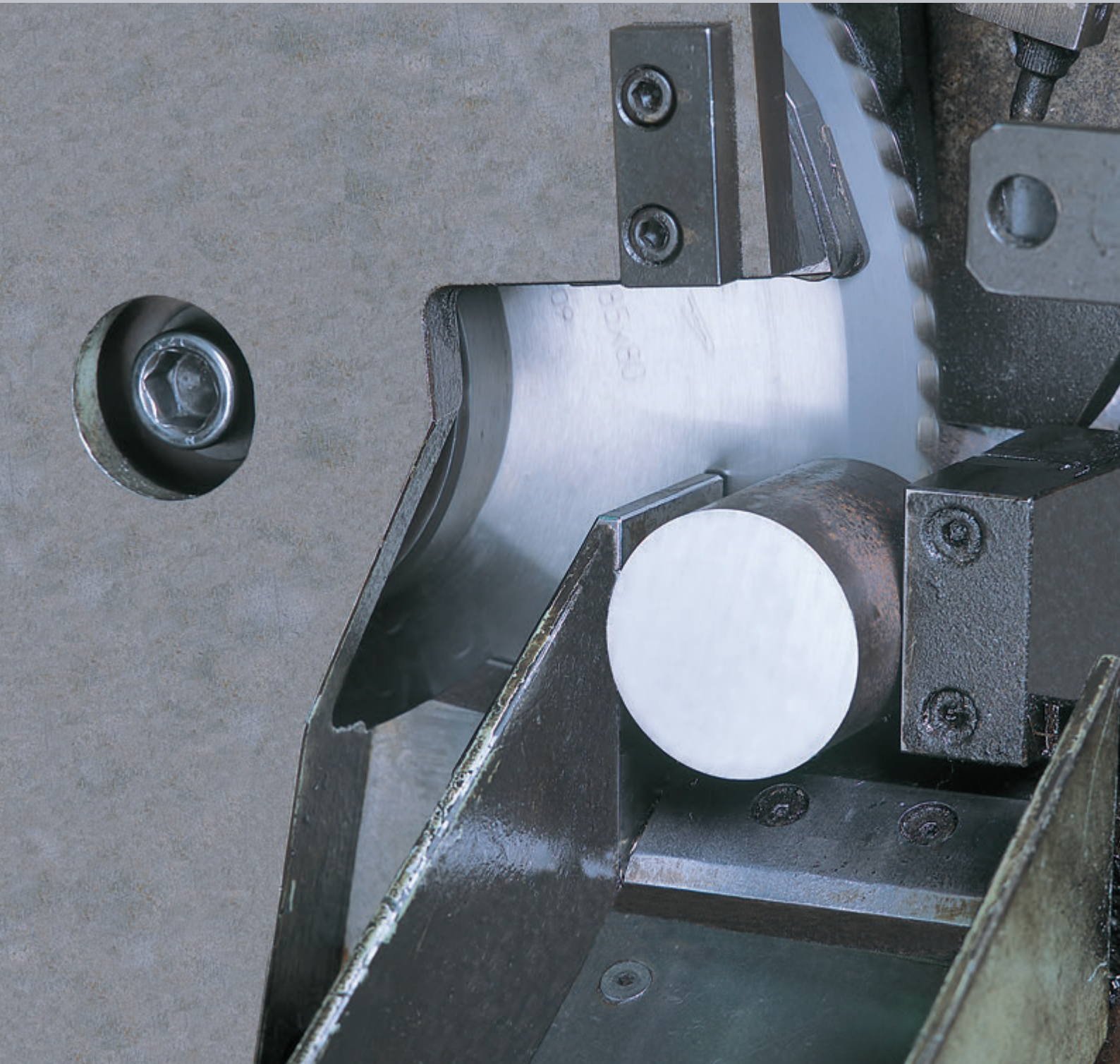


# Ferro Max Cold Saw Blades for Single Use

KANEFUSA



*Kanefusa - A New Dimension of Performance*



JQA-QM3710



JQA-EM3137  
Head Office  
Factory

Specifications and appearance are subject to change without notice.  
Photographs and illustrations may vary from actual products.

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[Class] [Article] [Revision]

# Advantages

The Kanefusa single use saw blade technology is superior to other sawing concepts both in economical and environmental perspectives.

Our FM (Ferro Max) Cold Saw Blades (single use) cut on average three times faster than a conventional band saw or metal saw, which means one machine can do the job of three, reducing power consumption, exhaust emission, mist oil in the air and floor space, all good for the environment.

FM Cold Saw Blades also allow a thinner kerf than resharpenable types, which leads to a better material utilization and less swarf that must be either disposed of or recycled.

Because all Kanefusa FM Cold Saw Blades are manufactured in Kanefusa Quality, all blades provide a constant cut quality and durability, providing you with high process reliability, which is a key to "Just-in-Time" production.

The single use sawing concept is efficient and highly economical. It allows you to use your resources in the most efficient way. You can also reduce manufacturing costs and respond faster to your customer's needs.

## 1 / Cycle Time

### Cutting Time Comparison (Metal Saw - Band Saw - FM Cold Saw) (Figures are of examples and not guaranteed results)



- Less space
- Fewer personnel
- Environment-friendly
- Less sawing sludge
- Less investment

Type	Diameter [mm]	Metal Saw t [s]	Band Saw t [s]	Ferro Max t [s]	Time Factor
Solid	55	285		28	10
	75		475	33	14
	110		220	39	5.6
	13	11		7	1.6
	42		159	8	20
	48	95		9	11
Tube	105		217	30	7
	42 ; 12		67	6	11
	41 ; 10	46		5	9
	51 ; 8	138		6	23
	63.5 ; 10		170	7	24

▶ Lower cost per cut

## 2 / Durability

### Efficiency study at a Scandinavian user

Machine: Bewo FCH-85-H      Material: 2172 (50 x 30 x t4)

Type	ST-5P	Metal Saw
Spec.	315 x 2.0 x 32 x z90	—
Average number of cuts / blade	9000	900
Cut cycle time [s]	4	4
Edge Life [s]	36000	3600
Tool change time [s]	600	600
Edge life + tool change time per blade [s]	36600	4200
Effective mfg time [s] (6 hours)	21600	21600
Number of cuts / day	5,311	4,629
Number of cuts / year (250 days)	1,327,869	1,157,143
Gain in productivity [%]	15	—

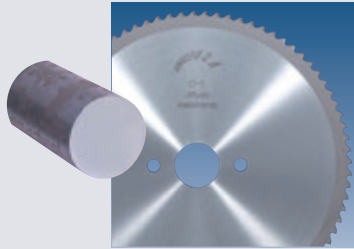
### Kanefusa original tooth geometry

+ Superior manufacturing technology  
+ Cermet or tungsten carbide teeth  
= over 300 % longer edge life compared with Metal saws or band saws

▶ 15% productivity increase or equal  
to 170,726 cuts / year or 98 m<sup>2</sup> / year

▶ More uptime of the machine and therefore higher productivity and less manufacturing cost.

# Product Line



## 1. ST-5

Edge Material: Cermet

Application: Solids

Material: Carbon steel, alloy steel  
Carbon content  $\leq 0.45\%$

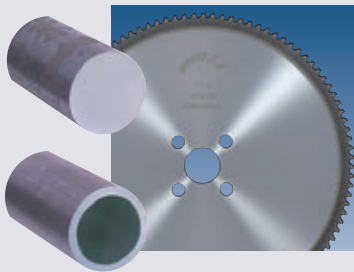
Recommended cutting conditions

$v_c = 70 - 120$  m/min

$f_z = 0.05 - 0.07$  mm

Lubricant: Supralube 25-II

▶ **With higher wear and adhesion resistant tooth tips, it achieves more stable and longer sawing performance.**



## 2. Ti-5

Edge Material: Coated Tungsten Carbide

Application: Solids and tubes

Material: High carbon steel, alloy steel  
special purpose steel  
Carbon content  $\geq 0.4\%$

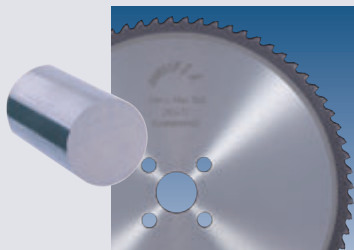
Recommended cutting conditions

$v_c = 70 - 120$  m/min

$f_z = 0.05 - 0.07$  mm

Lubricant: Supralube 25-II

▶ **Universal application and high performance**



## 3. Ferro Max SUS

Edge Material: Coated Tungsten Carbide

Application: Solids

Material: Stainless steel

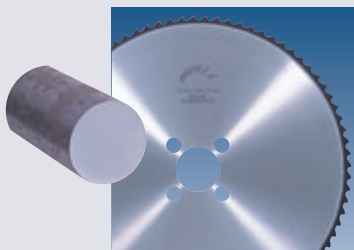
Recommended cutting conditions

$v_c = 50 - 70$  m/min

$f_z = 0.04 - 0.06$  mm

Lubricant: Supralube 60s

▶ **The newly developed coating improves adhesion resistance and wear resistance. It achieves 20% longer blade life than conventional coating. New tip design with stronger brazing gives more efficient swarf removal, smoother cutting surface and a more durable blade.**



## 4. Ferro Max Dies

Edge Material: Coated Tungsten Carbide

Application: Solids

Material: Die steel

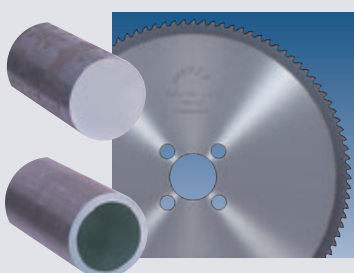
Recommended cutting conditions

$v_c = 60 - 80$  m/min

$f_z = 0.05 - 0.07$  mm

Lubricant: Supralube 60S

▶ **Special coating up to 100% longer tool life compared with Ti-5**



## 5. Ferro Max Speed

Edge Material: Coated Tungsten Carbide

Application: Solids and tubes

Material: Carbon steel, alloy steel  
Tensile strength 500-1000N/mm<sup>2</sup>

Recommended cutting conditions

$v_c = 200 - 300$  m/min

$f_z = 0.05 - 0.08$  mm

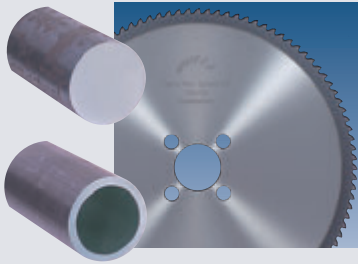
Lubricant: Supralube 25-II

▶ **Higher cutting speed for less cycle time and higher productivity**





"Advanced Material Technology" is Kanefusa's special coating technology applied on cutting edge of sawblades. The coating is very instrumental in making much longer cutting life in high temperature and fast speed sawing applications.



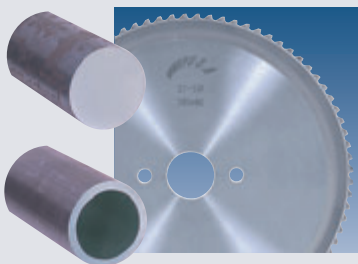
## 6. Ferro Max Speed LC

Edge Material: Coated Tungsten Carbide  
 Application: Solids and tubes  
 Material: Carbon steel, alloy steel  
 Tensile strength  $\leq 600\text{N/mm}^2$

Recommended cutting conditions  
 $v_c = 200 - 300 \text{ m/min}$   
 $f_z = 0.05 - 0.08 \text{ mm}$   
 Lubricant: Supralube 25-II



► Higher cutting speed achieved for low carbon steel. Special coating and carbide edge up to 100% longer tool life.

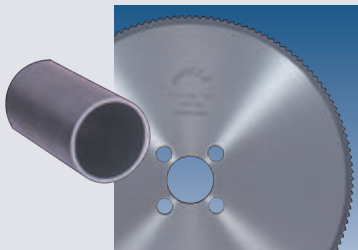


## 7. ST-5P

Edge Material: Cermet  
 Application: Tubes and solids  
 Material: Carbon steel, alloy steel  
 Carbon content  $\leq 0.45 \%$

Recommended cutting conditions  
 $v_c = 100 - 200 \text{ m/min}$   
 $f_z = 0.03 - 0.06 \text{ mm}$   
 Lubricant: Supralube 25-II

► With high chipping resistant cermet tooth edge, it achieves more stable sawing performance in the harsh condition which triggers damages to tooth edges.

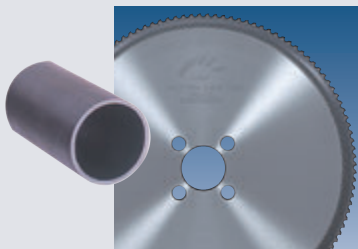


## 8. Ferro Max Tube

Edge Material: Cermet  
 Application: Thin wall tubes  
 Material: Carbon steel, alloy steel  
 Tensile strength  $400-600\text{N/mm}^2$

Recommended cutting conditions  
 $v_c = 100 - 200 \text{ m/min}$   
 $f_z = 0.03 - 0.05 \text{ mm}$   
 Lubricant: Supralube 25-II

► For thin wall tubes without deformation of the wall



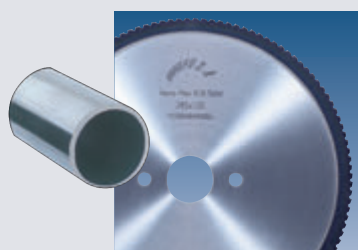
## 9. Ferro Max Super Tube

Edge Material: Coated Tungsten Carbide  
 Application: Thin wall tubes  
 Material: Carbon steel, alloy steel  
 Tensile strength  $600-1400 \text{ N/mm}^2$

Recommended cutting conditions  
 $v_c = 200 - 300 \text{ m/min}$   
 $f_z = 0.03 - 0.05 \text{ mm}$   
 Lubricant: Supralube 25-II



► High cutting speed for thin wall tubes



## 10. Ferro Max SUS Tube

Edge Material: Coated Tungsten Carbide  
 Application: Thin wall tubes  
 Material: Stainless steel

Recommended cutting conditions  
 $v_c = 50 - 100 \text{ m/min}$   
 $f_z = 0.03 - 0.05 \text{ mm}$   
 Lubricant: Supralube 60S



► Achieves 10 times longer cutting life compared with Ferro Max Tube in difficult stainless steel tube sawing with newly developed special tooth shape, carbide edge and coating

Kanefusa is the pioneer of cold saw blades for single use. Since we released the first version in 1987, we have not only improved the quality and durability of the saw blades but also increased their versatility. Today we supply eight different types used for various applications such as bearing steel, drive shafts, rails, pipes and tubes, shock absorbers.

### 3 / Quality Cut

The cut surface and dimensional accuracy, by FM cold saw blades, is superior to band sawing.

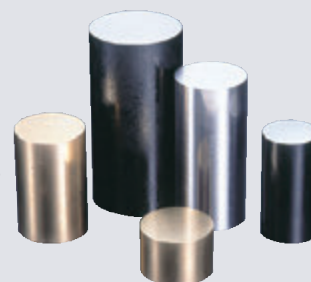
- Eliminating or reducing subsequent manufacturing processes
- Reducing the manufacturing cost
- Increasing product value



### 4 / Process Reliability

Saw blades for single use deliver repeated quality cut, blade after blade. Standard saw blades lose performance after grinding due to incorrect grinding, the plate distortion and edge wear.

- Performance is stable and tool change can be scheduled
- Easier maintenance, because no pick up and delivery of sawblade is necessary



► **Better cut quality, higher productivity and process reliability enable "Just-in-time" production.**

#### Application Chart

	JIS	Material Group	Parameters		Saw Type
Carbon Steel Alloy Steel	S-C	Case hardened steel	Carbon content $\leq 0.45\%$		ST-5
	SNC	Nickel chrome steel			ST-5P
	SNCM	Nickel chrome molybdenum steel	Carbon content $\geq 0.4\%$		Ti-5
	SCr	Chrome steel			Ferro Max Speed LC
	SCM	Chrome molybdenum steel	$v_c \geq 200\text{m/min}$	Tensile strength $\leq 600\text{N/mm}^2$	Ferro Max Speed
	SMn	Manganese steel		Tensile strength 500-1000N/mm <sup>2</sup>	Ferro Max SUS
Special-Purpose Steel	SUS	Stainless steel			Ti-5
	SUP	Spring steel			Ferro Max Dies
	SUM	Sulfur free cutting steel			Ferro Max Tube
	SUJ	High carbon chromium bearing steel			ST-5P
	SKD	Die steel			Ferro Max Super Tube
Steel Tube	STKS	Alloy steels	Tensile strength $\leq 600\text{N/mm}^2$ and $v_c \leq 200\text{m/min}$	Thin wall tubes	Ferro Max Super Tube
				Thick wall tubes	Ferro Max Speed
	STK	Carbon steel	Tensile strength $\geq 600\text{N/mm}^2$ or $v_c \geq 200\text{m/min}$	Thin wall tubes	Ferro Max Super Tube
				Thick wall tubes	Ferro Max Speed LC
	STKM	Carbon steel	Tensile strength $\leq 600\text{N/mm}^2$ and $v_c \geq 200\text{m/min}$	Thin wall tubes	Ferro Max SUS Tube
				Thick wall tubes	
	STKR	Square steel tube for general structure		Thin wall tubes	
Thick wall tubes					
SUS	Stainless steel		Thin wall tubes		

We manufacture saw blades for the following brands:

**Amada, Behringer-Eisele, Bewo, Daito, Delta, Endo, Everising, Exact-Cut, Fong Ho, Kasto, Kentai, Mega, Nishijima, Noritake, Rattunde, Soco, Sinico, Tsune, Adige, Plantool and others**

#### Kanefusa Lubricant for oil mist

For best performance of the saw blades, we recommend original Kanefusa lubricant.

Material	Mist fluid	Composition	Dropping speed (1drop)	Characteristics
Mild steel	Supralube 25-II	Vegetable ester	5-7 s	Middle viscosity
Stainless steel	Supralube 60S	Sulfur mineral	1-2 s	High viscosity
Non - ferrous steel	Supralube 10P-II	Distilled vegetable ester	2-5 s	Odorless, low viscosity





## Asia

### KANEFUSA CORPORATION

#### Head Office / Factory

1-1, Nakaoguchi, Ohguchi-cho, Niwa-Gun,  
Aichi-ken, Japan, Postal Code 480-0192  
Tel : +81 587 95 7221 Fax : +81 587 95 7226  
E-mail:sales-ex@kanefusa.co.jp

### PT. KANEFUSA INDONESIA

EJIP Industrial Park, Jl. Ciujung Plot 8 D, South Cikarang,  
Bekasi 17530, West Java, Indonesia  
Tel : +62 21 897 0360 Fax: +62 21 897 0286  
+62 21 897 0287  
E-mail : sales@kanefusa.co.id

### Surabaya Service Center

JL. Berbek Industri VII/5B Kawasan Industri Sier Surabaya, Indonesia  
Tel : +62 31 849 1784 Fax: +62 31 849 2784

### KANEFUSA CHINA CORPORATION

NO.50 Zhuzhu Road, Lujia Town Kunshan city, Jiangsu, China  
Tel : +86 512 57875072 Fax: +86 512 57875073  
E-mail : yy@kanefusa-cn.com

### Tianjin Office

Sanjinglu No.5 Dongli economic development zone Tianjin city China  
Tel : +86 22 5823 7633 Fax: +86 22 5823 7632  
E-mail : tjkc03@kanefusa-cn.com

### Guangdong Office

No.2 Danhen Road, Danzao Town Foshan City, Guangdong, China  
Tel : +86(0)75785406562 Fax: +86(0)75785406571  
E-mail : fssales@kanefusa-cn.com

### KANEFUSA INDIA PRIVATE LIMITED

Plot No.169, Sector-8, IMT Manesar, Gurgaon,  
Haryana PIN 122-050 India  
Tel : +91 124 420 8440 Fax: +91 124 420 8441  
E-mail : info@kanefusa.co.in

### KANEFUSA VIETNAM MANUFACTURING CO., LTD.

Plot No. C 11-22-23, Thang Long Industrial Park (Vinh Phuc),  
Thien Ke Commune, Binh Xuyen District, Vinh Phuc Province, Vietnam

### KANEFUSA VIETNAM CO., LTD.

Road No.N3-2, Long Duc IP, Long Duc Ward,  
Long Thanh District, Dong Nai Province, Vietnam  
Tel : +84 251 368 1400 Fax: +84 251 368 1402  
E-mail : sales@kanefusa-vn.com

## Americas

### KANEFUSA USA, INC.

621 Dolwick Drive Erlanger, KY 41018, USA  
Tel : +1 859 283 1450 Fax: +1 859 283 5256  
E-mail : sales@kanefusa-na.com

### KANEFUSA DO BRASIL LTDA.

Rua Bom Pastor, 2732 Bloco Torre Sul - Sala 73  
São Paulo - SP Cep:04203-003, Brasil  
Tel : +55 11 2372 7664 Fax: +55 11 2372 7663  
E-mail : vendas@kanefusa.net.br

### Joinville Service Center

Rua Helmuth Fallgatter 1937, Joinville-SC CEP: 89206-101, Brasil  
Tel : +55-47-3439-5486

### KANEFUSA MEXICO S.A. DE C.V.

Circuito Logistic Aeropuerto No.4 Fracc.1 Lote2 Predio San  
Antonio Texas Silao Guanajuato C.P. 36273 Mexico  
Tel : +52 1 472 7486314/3 Fax: +52 1 472 7486313  
E-mail : info@kanefusa.com.mx

## Europe

### KANEFUSA EUROPE B.V.

De Witbogt 12, 5652 AG, Eindhoven, The Netherlands  
Tel : +31 40 2900 901 Fax: +31 40 2900 908  
E-mail : info@kanefusa.nl

### Moscow Office

Bldg. 2, Novodmitrovskaya 2, 127015, Moscow, Russia  
Tel : +7 499 624 1030  
E-mail : moscow@kanefusa.nl