

F&K Delvotec Quotation Nr. 88952

Ralph Christoph

Sales Manager F&K Delvotec

09.11.2015

EG-Konformitätserklärung / EC Declaration of Conformity



- | | |
|---|---|
| ■ nach Maschinenrichtlinie
<i>according to Machine Directive</i> | 2006/42/EG, Anhang II A
<i>2006/42/EC, Appendix II A</i> |
| ■ nach Niederspannungsrichtlinie
<i>according to Low Voltage Directive</i> | 2006/95/EG
<i>2006/95/EC</i> |
| ■ nach EMV-Richtlinie
<i>according to EMC-Directive</i> | 2004/108/EG
<i>2004/108/EC</i> |



Hiermit erklären wir, dass die Maschinen der Produktfamilie Wire-Bonder G5 und G5-2 (62000, 64000, 66000 und deren Kombinationen) allen grundlegenden Sicherheits- und Gesundheitsanforderungen der o.g. Richtlinien einschließlich deren zum Zeitpunkt dieser Erklärung gültigen Änderungen entsprechen.

Herewith we declare that the machines of the product line Wire Bonder G5 and G5-2 (62000, 64000, 66000 and their combinations) comply with all the essential health and safety requirements of the directives stated above, including any amendments at the time of issuing this declaration.

Angewendete harmonisierte Normen / *EC Standards applied:*

- | | |
|----------------------|--------------------|
| • DIN EN ISO 12100-1 | • DIN EN 953 |
| • DIN EN ISO 12100-2 | • DIN EN 60204-1 |
| • EN 954-1 | • DIN EN 61000-6-2 |
| • DIN EN ISO 13 857 | • DIN EN 61000-3-2 |
| • DIN EN 349 | • DIN EN 61000-3-3 |
| • DIN EN ISO 14121-1 | • DIN EN 55011 |
| • DIN EN 13850 | |

Ort / *Location:*

Ottobrunn

Datum / *Date:*

03.01.2011

Name / *Name:*

Dr. F. Farassat

Unterschrift / *Signature:*

Angaben zum Unterzeichner /

Geschäftsführer,

Identification of person empowered to sign:

Entwicklungsleiter & Technische Dokumentation
President, Head of R&D Department & Technical Documentation

Quotation No 88952

date: 09.11.2015
 company: Magpower Portugal
 your ref: Jose Tavares
 our ref: Ralph Christoph- SK



F&K Delvotec Bondtechnik GmbH
 Daimlerstr. 5-7
 85521 Ottobrunn
 Telefon (089) 6 29 95 – 122
 Telefax (089) 6 29 95 –101
 info@de.fkdelvotec.com
 www.fkdelvotec.com

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<i>item</i>	<i>qty.</i>	<i>description</i>	<i>price EURO</i>
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F&K Delvotec offers you:

F & K Delvotec Bond GmbH was founded in 1978 and is now represented worldwide. As a recognized technology leader in innovative wire-bonding we follow the objective to develop and deliver technically perfect machine.

- **Product portfolio:** we are the only supplier of wire bonder offers you the complete bandwidth of all bonding technologies. Besides its own production of the bonding equipment 30 years of experience in automation technology round out our profile.
- **F & K Delvotec Ottobrunn** offers technology "Made in Germany". For this, we spend a significant investment to develop the latest procedures in core technologies, such as ultrasonic transducers and digital generators in-house. As the sole provider of all common transducer frequencies, we are of course offer the appropriate frequency in the location for your product range.
- **One-stop shopping:** to help you generate solutions from a single source, we offer a one stop shopping strategy: F & K Delvotec is your reliable partner for bonding equipment including process development and automation solutions
- **BPC Bond Process Control patent no. EP 0540189**
 The Bond Process Control (bonding process control) is the only industrially applicable method for real-time control of the bonding parameters, depending on the progress of the bonding. It regulates ultrasonic energy and bond strength according to the current wire deformation. This allows for a one-close monitoring of the bonding process, so excellent quality control. . It allows establishing a fine control of the process thus compensates any slight variations in the surface quality and the bondability.

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item *qty.* *description* *price EURO*

1. Customer / Company Kunde / Firma	2. Project No. Projektnr.	3. Date Datum
Magpower Portugal	Open	23.10.2015
4. Date for Receipt of Customer Material Datum Eingang des Kundenmaterials	5. Machine Type Maschinen-Modell	6. Estimated Delivery Date Möglicher Liefertermin
Open	G5- 64000DA	Lead-time 10- 12 weeks without conveyor system
7. Contact Person at F&K Location: Germany / Munich Ansprechpartner F&K Deutschland / München	8. Contact Person at customer Ansprechpartner Kunde	9. Processor at F&K Location: Germany Bearbeiter bei F&K Deutschland
<u>Name:</u> Ralph Christoph <u>Phone.:</u> +49 (89)-62995-125 +49 (89)-62995-122	<u>Name:</u>	<u>Name:</u> Ralph Christoph (Sales) Stefan Baumgärtner (Project Management) Desmond Bradley (Project Management) Alex Reuter (Application)

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item qty. description price EURO

F&K Delvotec- Staying Ahead in Bonding Technology



F&K and STRAMA MPS

- Worldwide facilities providing you 24 h support
- your partner providing complete portfolio for wire bonder machines and automation
- 51% shareholder of F&K Delvotec



- your partner for process integration in electronic business



F&K Headquarter Ottobrunn

- F&K Delvotec – founded in 1977 in Germany
- First European producer of wire bonders
- Full automatic wire bonders already built in 1978

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- Over 40 years of bonding experience
- More than 6500 machines installed
- Over 35 patents
- Employees >182
- Numerous awards



F&K Los Angeles California

- Foothill Ranch
- Sales& Service facilities
- Employees >20



F&K Singapore

- South East Asia
- First contact for distributors and local service facilities in China, Philipines, Thailand, South Korea, Malaysia
- Sales& Service facilities
- Employees >35

I.D./V.A.T. Nr. DE 811 350 414

Company Domiciled in: Ottobrunn, Germany · Register Court: Amtsgericht München · HRB 101812 · CEO: Dr. Farhad Farassat

Bank Accounts: Commerzbank AG München (BLZ 700 400 41), Konto 2 553 360 · IBAN: DE87 7004 0041 0255 3360 00 · BIC: COBADEFFXXX
Dresdner Bank München (BLZ 700 800 00), Konto 3 0553 5800 · Deutsche Bank (700 700 24), Konto 4 717 930

Postbank München (BLZ 700 100 80), Konto 334 136 807 ·

Tax Number: 143/137/30272 · WEEE-Reg.-Nr. DE 30114933

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F&K Model G5 64000 Deep Access Single Rotary Head Bonder

Only Convertible G5 platform concept including BondProcessControl

- ✓ Real time operating system Debian server
- ✓ “Four times best wire bonder” stated by VLSI
- ✓ recognition system Cognex 8000
- ✓ Smallest footprint on the market, weight only 620kg
- ✓ Convertible Bondhead- “All in one” bonding technologies on one platform
- ✓ 100% Quality insurance- Bond Process control unit (BPC)
- ✓ F&K transducer in 5 different frequencies available



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1	1	<p>Basic machine model G5 Single <u>Standard bonding area X/Y: 254mm x 152mm (10" x 6")</u></p> <p>Modular machine concept including:</p> <p>main components</p> <ul style="list-style-type: none"> • extremely rugged machine frame • minimum dimensions of required floor space 1777 mm x 620 mm x 1273 mm (height x width x depth) • working height adjustable from 850mm-1050mm, fulfil SMEMA requirement (940-965 mm) • control and power electronics based on industry standards • Pentium® M based cPCI CPU • Unix®-based real time multi-tasking operating system • high capacity hard disk drive (> 60 GB, ruggedised system) • standard network connectivity TCP/IP, SMEMA, SECS/GEM (SEMI E30), HSMS • graphical multi-window user interface • 19" TFT flat screen monitor • menu controlled teach-in • direct parameter input • pattern recognition display • process status & message display • service interface • linear drive X-Y table with 10" x 6" bond area • X = 254 mm (10") ; Y = 152 mm (6") ; Z = 40 mm • high resolution linear encoders in X and Y • AC servo motor with absolute encoder in Z and P axes • high speed numeric control system • programmable dual source work area lighting • electronic touch down sensor for every bond • individual height sensing per component or bond pad <p>Microscope</p> <ul style="list-style-type: none"> • stereo zoom • adjustable light intensity <p>Status Light</p>	
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- easy programmable
- Ultrasonic Generator**
- digital F&K Delvotec ultrasonic system
 - voltage, current or power controlled
 - programmable from 30 to 250 kHz operating frequency
 - up to 40 watts ultrasonic power output
- pattern recognition unit PRU**
- CCD camera with custom optics adapted to product
 - moving camera in Z axis
 - programmable focus for each recognition point
 - Cognex® 8000 Pat Max® system
 - 256 greyscale processing
 - pattern recognition
 - edge recognition
 - tilted image option
 - programmable size search window
 - 640 x 480 Pixel Camera
- process adjustment**
- programme complexity virtually unlimited
 - up to 150 chips recognition reference images
 - up to 50.000 wires
 - no restriction on bond height within work area
 - programmable force / time ramp
 - bond parameter settings
 - offset values per program
 - standard values per chip
 - individual settings per bond
 - loop shape settings
 - automatic or programmed loop height setting
 - automatic control of bond height
 - standard values per program
 - standard values per chip
 - individual settings per wire
- work area lighting**
- programme controlled type and intensity
 - direct red LED standard

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- other colours optional
- spot light optional

Safety
light curtains

Miscellaneous

- documentation, user manual with programming examples
- assembly diagrams, electrical interconnects, trouble shooting etc.
- one hardcopy in English

2	1	<p>NEW extended Bond Process Control System BPC2000 (patented)</p> <p>New features:</p> <ul style="list-style-type: none"> • Advanced process data contained in the Bonder database • BPC data and TD sensor and time sequence • Advanced impedance and frequency control • Visualization of all data in the BPC Screen <ul style="list-style-type: none"> • for individual on-line monitoring of wire deformation, transducer voltage, transducer current,transducer frequency • automatic adjustment of ultrasonic energy for consistent bond quality • programmed target deformation • programmed process window • automatic process supervision • immediate reaction on bond errors • graphic recording and display of each bond • quick set-up of new products through optical feedback • simplified and improved quality control • individual process documentation per bond • can be upgraded with optional parts tracking 	
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bondhead

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- | | | | |
|---|---|--|--|
| 3 | 1 | Deep Access Thin wire bond head <ul style="list-style-type: none"> • 4 axis bond operation (x,y,z,p) for bonding in any direction • quick exchange of bond head (<15 min) • 17 to 75 µm wire diameter • up to 250 µm x 50 µm ribbon • bond force programmable from 10 to 250 cN • 90 degree wire or ribbon-feed • designed for 2" wire spool • standard bondtool length 3/4" or 1" • single wire clamp, cascadable with support clamp for secure tear-off • selectable transducer (60 kHz, 100 kHz, 120 kHz and 145 kHz) | |
|---|---|--|--|

Wire spool

- | | | | |
|---|---|---|--|
| 4 | 1 | Thin Wire Spool <ul style="list-style-type: none"> • motor-driven wire spool with wire end check • easy access, transparent cover • quick wire spool exchange • handling of 2" wire spools | |
|---|---|---|--|

Options included

- | | | | |
|---|---|---|--|
| 5 | 1 | BPD Viewer <ul style="list-style-type: none"> • Bond Process Data Viewer allows viewing of all recorded data on an external PC • Identical to view on the bonder screen • Windows OS System | |
|---|---|---|--|

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List Price ONE G5 Deep Access machine:	135.000,00
Rental price 1-6 month *:	4.200,00/month
Rental price 6-12 month *:	3.500.00/month
Buying price after 6 month:	109.800,00
Buying price after 12 month:	88.800,00

List Price TWO G5 Deep Access machine:	270.000,00
Rental price 1-6 month *:	8.400,00/month
Rental price 6-12 month *:	7.000.00/month
Buying price after 6 month:	219.600,00
Buying price after 12 month:	177.600,00

Buy back price Hesse machine:	-40.000,00
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This quotation is valid until 30th of November for Magpower. Please keep this quotation confidential.

*before entering the business between F&K Delvotec and Magpower, the customer (magpower) has to ship production test material, wire and wedge tools to the attention of F&K Delvotec. After proving the feasibility of the process and official acknowledgment of Magpower (pre acceptance test) we can go ahead to ship the equipment to Magpower. After Installation, acceptance test and installation the official rental period will start. The minimum rental period is stated by 6 month, maximal rental period 12 month. The rental invoice has to be paid advanced at the beginning of the calendar month. If Magpower intends to purchase the equipment F&K after the rental period F&K will reduce the selling price accordingly to the already paid invoices. The guarantee is limited upon 12 month after final acceptacne- first 6 month of labor and spares, second 6 month only spares. The invoice will be issued at beginning of each calendar month; the rental amount must be paid in advance. As long as the rental period is not closed by one of the parties (first milestone after 6 month, second milestone after 12 month) the equipment remains property of F&K Delvotec Bondtechnik GmbH
 Please NOTE: any additional services like process or product development are not included in this quotation and must be separately quoted.

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Fixed Options that need to be separately pay for one machine

Installations- and Trainings package

6	1	buy off, installation and training <ul style="list-style-type: none"> pre acceptance 2md in Munich Installation 2md in Lissboa acceptance (buy off) 2md at Magpower user training 5 md at Magpower including travel and hotel expenses 	16.960,00
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Transport Germany/ Portugal

7	1	Transport and insurance <ul style="list-style-type: none"> Transport Germany/ Portugal Will be done by F&K truck with own F&K driver Including complete covered insurance If Magpower does not purchase the machine the same amount for pick up the equipment is due 	6.200,00
8	1	Heated automatic handling system for boats (FIX) <ul style="list-style-type: none"> for boats of fixed width (up to 150 mm) Fully automatic transport system with programmable pitch Stopper and output pusher Customized bond station with mechanical or vacuum clamping kit SMEMA interface for line integration or input/output lifts Integrated, customized pre- and heating units Programmable temperature controller up to 200°C SMEMA interface for line integration or input/output lifts 	40.000,00

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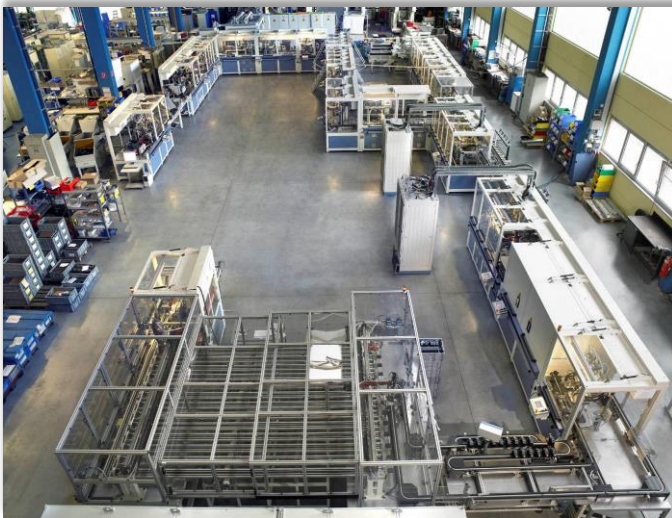


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Optional Automation before and after the wire bonder provided by STRAMA MPS Automation specialist



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Terms & Conditions

Delivery: standard 12-14 weeks after Receipt of Order

Shipment: DAP Lissboa

Payment: the invoice will be issued at beginning of each calendar month; the rental amount must be paid in advance. As long as the rental period is not closed by one of the parties (first milestone after 6 month, second milestone after 12 month) the equipment remains property of F&K Delvotec Bondtechnik GmbH

Fixed Quote: This quote remains valid for 30 days.

Otherwise F&K Delvotec's standard terms and conditions are applicable.

Ralph Christoph
Sales Manager Europa

F&K Delvotec
Bondtechnik GmbH

Your questions are welcome at F&K Delvotec European Sales!

Please call +49-89-62995-122

Please send your order to following fax number:

+49-89-62995-101