BIG DAISHOWA BIG-PLUS DUAL CONTACT

Not All Dual Contact Tooling is the Same!

Important information inside about BIG-PLUS and manufacturers who claim to offer dual contact tooling systems.
BIG-PLUS — The World’s Most Rigid Dual Contact Spindle System

Adopted by more than 100 machine tool builders for over the past 20 years, thousands of machines and tens of thousands of BIG-PLUS tool holders are in operation today. Due to the popularity of BIG-PLUS, many tooling companies, without a proper license agreement, gauges, or manufacturing specifications & tolerances are offering dual contact tooling. The achievement of dual contact is only possible by strict control of flange face location to taper gauge line.

BIG-PLUS Dual Contact Works on a Very Small Amount of Spindle Elastic Deformation

Taper contact before clamping is very important and therefore the dimension and tolerance for the flange face is extremely critical to achieving dual contact. There are 3 possible outcomes depending on the actual tool holder specification.

The Current Market Contains Many Suppliers of Dual Contact Tooling Who Are NOT Licensed for BIG-PLUS

Without the license, they have neither the exclusive gauges nor dimensions and tolerances for the critical relationship of taper to flange. We acquired many of these tools from all regions of the world and inspected them with our gauges.
THE BIG-PLUS SPINDLE SYSTEM IS AN ORIGINAL DEVELOPMENT OF BIG DAISHOWA SEIKI CO., LTD.

Condition #1
Proper Fit
- Dual contact of taper and flange face after clamping

Condition #2
Flange Contact Only
Limited or No Taper Contact
- Poor runout accuracy
- Severe chatter and vibration
- Spindle damage

Condition #3
Taper Contact Only
No Flange Contact
- Features of BIG-PLUS are voided
- Works same as taper-only contact tooling

Inspection Results of Sample Non-Licensed Dual Contact Tooling
25 Samples — 40 & 50 Taper "Dual Contact" Measured According to the BIG-PLUS Standard

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<th>Condition #2</th>
<th>Condition #3</th>
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<td>44% — Taper contact only, not to specification</td>
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Condition #1
Proper Fit Taper & Flange Contact
Allowable tolerance range for BIG-PLUS

Condition #2
Flange Contact Only
Limited or no taper contact

Condition #3
Taper Contact Only
No flange contact
BIG DAISHOWA Produces and Maintains All Spindle and Tool Holder
BIG-PLUS Gauges World-Wide For Licensed Companies Only

Strict Gauge Control
BIG-PLUS spindles produced by licensed machine tool or spindle builders are strictly controlled in dimensions by the BIG original Master Gauge. Only BIG-PLUS trademarked tool holders can achieve the optimal performance fully and safely.

Gauges for Machine Spindle

BIG-PLUS Spindle System Machine Tool Builders
The BIG-PLUS Spindle System is offered by many of the world’s leading manufacturers of machining centers. Some of the machine and spindle builders who have produced BIG-PLUS spindles are as follows:

- ACCUWAY, ADVANCED MACHINE, ALEX-TECH, AMS, ANCA, AONO GIKEN, ARES, ASA TECH, AWEA, BERG SPANNTECHNIK, BOST, BROTHER, CERI, CHEVALIER, CHUO-SEIKI, CITIZEN, COLGAR, D.S. TECHNOLOGIE, DAH LIH, DAITO SEIKI, DAIYO, DIXI, DMC, DMS, DORI SEIKI, AD, DMG MORI SEIKI CO., LTD., DOOSAN, DYNOMAX, EUGRO, ENSUJI, FADAL, FAMOT, FANUC, FEMCO, FIRST, FIRST, FISCHER, FOREST-LINE, FP, FRANZ KESSLER, FUJI SEIKI, GIDDINGS & LEWIS, GMN, GTI, HARDINGE, HARTFORD, HEYLIGENSTAEDT, HONDA, HONMA, HORKOS, HOSUGA, HST, HURCO, HWACHEON, IBAB, IBARMA INNOVATEK, IGEKAI, INOUE KOSOKU KIKAI, INOUE, JOHNFORD, JPT, JUNGWOO M.S., JYOTI, KARIKAS, KASHIFUJI, KAWASAKI, KENTUR, KIRA, KITAMURA, KIWA, KMT, KOMATSU NTC, KONDA, KOYO, KPTC, KURADI, LAZZATI, MAG, MAGNIX, MAKINO, MAKINO SEIKI, MANDELLI, Matsuura, MAZAK, MECHATRONICS, MITSUBISHI, MITSUBISHI KOGYO, MITSUI SEIKI, MOTOKUBO, MTK, MTL, N.S.S., NACHI, NAKAMURA, NEMIC, NICOLÁS CORREA, NIPPRON BEARING, NISHIJIMA, NISSIN-MFG, NISSIN, NSK, NUKAD, NUMEN, OBTAKE, OHTORI, OKK, OKUMA, OMLAT, OMV, PAMA, PDS, PIETRO CARNAGHI, PMC, QUASER, REIDEN, ROKU ROKU, ROYAL, RS, SAC, SAED, SEMA, SEMPUCO, SEPTECO, SHAN RONG, SHODA, SHW, SKG, SKODA, SMEC, SNK, SODICK, SORALUCE, SPIFOLD, SPIRIT, SPIRIT, SPINTRUE, SPS, STARRETT, STUDER, SUFENG, SUNWOOD, SUPERIOR SPINDLE SERVICE, SWIFT, TAJMAC-ZPS, TAKAMAZ KIKAI KOGYO, TAKISAWA, TANOSE, TANATE, TONDA, TOS KURIM, TOS HANNSDORF, TOSHIBA, TOYO SEIKI, TSUGAKOKA, TSUGAMI, TUSAM, UGTIN, UTSUNOMIYA, VICTOR TAICHUNG, VITEC, YU CHENG, WALDRICH COBURG, WELLE, WIA, YAMASAKI GIKEN, YAMASHINA SEIKI, YASUDA, YASUNAGA, YCM, YU HUN, ZAYER

* Bold company names are North American licensed BIG-PLUS spindle rebuilders

BIG-PLUS Tooling Licensees
The following companies are licensed for production, sales, and use of the BIG-PLUS trademark:

- BIG KAISER PRECISION TOOLING INC
  - REGO-FIX
  - SHOWA TOOL CO, LTD
- BIG KAISER PRECISION TOOLING LTD
  - KOMET GROUP
  - SUMITOMO
- SANDVIK COROMANT
  - YUKIWA SEIKI USA, INC

Only Select BIG-PLUS Tooling from These Licensed Companies and ACCEPT NO IMITATIONS OR COPIES
All products will be clearly marked with the following indications on all parts:

BIG-PLUS Spindle System
License BIG Daishowa Seiki